

Attachment List (Draft)

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Annex1: Project Design Matrix (PDM)

Project Title: Strengthening of Air Monitoring Program in the United Mexican States

Duration: three (3) years

Last Update: 26 January, 2007

Narrative Summary (Overall Goal)	Objective Verifiable Indicators	Means of Verification	Important Assumptions
Capacity of the Mexican society to manage air quality is strengthened.			
1. Effective air pollution control measures are being planned, taken, and evaluated by local and federal governments.	1. Federal Government: The number of the local networks whose air quality monitoring data are utilized in policy planning or evaluation by the federal government is increased.	1. Policy documents prepared by the federal government	1. Energy consumption, especially unclean fuels, in Mexico does not drastically increase.
2. Health risk, impacts on ecosystems, and economic losses due to air pollution are identified.	2. Federal and local governments: The number of research papers on health risk, impacts on ecosystems, and economic losses due to air pollution that can be utilized for policy planning or evaluation is increased.	2. Scientific journals and technical reports	2. Mexico does not face severe economic downturn
3. Air pollution contingency plans are applied when needed.	3. Local governments: The number of local governments that have established an air pollution contingency plan is increased.	3. Publications of the air pollution contingency plans	
4. Civil society and policy makers increased their support to air quality management measures.	4. Local governments: The number of local governments that utilize air quality monitoring data for policy planning or evaluations is increased.	4. Local air quality management programs	
	5. Civil society and policy makers: Budgets for air quality management measures at the federal and local levels are increased.	5. Budget documents of federal and local governments	
(Project Purpose)			

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Annex1: Project Design Matrix (PDM)

<p>The Mexican society recognizes importance of air quality monitoring and capacity of the local governments to provide and utilize reliable air quality information for policy planning and evaluation is strengthened.</p>	<p>1. Local governments: At least 18 local networks are confirmed by CENICA as providing reliable air quality monitoring data through SINAICA.</p> <p>2. Local governments: At least 18 local networks are confirmed by CENICA as utilizing air quality monitoring data for policy planning or evaluation.</p> <p>3. Local governments: Awareness of those who are responsible for environmental programs of the State governments towards importance of air quality monitoring is increased.</p> <p>4. Civil society: Access counts per month to SINAICA is increased.</p>	<p>1. CENICA's audit report</p> <p>2. CENICA's evaluation report</p> <p>3. Results of the discussions with those who are responsible for environmental programs of the State governments</p> <p>4. SINAICA homepage counter</p>	<p>1. Local governments allocate enough resources for air quality monitoring.</p> <p>2. The seven manuals are adopted as NOM.</p> <p>3. CENICA staff who can be trainers of capacity building for the local governments do not leave the institution.</p> <p>4. Mexico does not face severe economic downturn</p>
<p>(Outputs)</p>	<p>1.1 The six standard manuals on air quality monitoring in Mexico are prepared by May 2007.</p>	<p>1-1. Approved manuals.</p>	<p>SINAICA system does not break down for a long time.</p>
<p>1. Capacity to collect reliable air quality monitoring data in Mexico is strengthened.</p>	<p>1-2. At least two CENICA staffs can lecture on 1) overview of air quality monitoring, 2) monitoring network design, 3) installation of monitoring equipment, 4) operation, maintenance and calibration of monitoring equipments, and 5) QA/QC at seminars by the end of project.</p>	<p>1-2. Evaluation report of the lecture at the seminars by the Japanese expert team</p>	<p>CENICA staff who can be trainers of capacity building for the local governments do not leave the institution.</p>
	<p>1-3. At least two CENICA staffs acquire steps to conduct audit on air quality monitoring stations by the end of project.</p>	<p>1-3. Evaluation report of the audit procedures by a Japanese expert team.</p>	<p>Proposal for new staff positions in CENICA is approved by Ministry of Finance.</p>
	<p>1-4. Design or Locations of air quality monitoring network are evaluated in at least two model cities by the end of the project.</p>	<p>1-4. Reports on evaluation of the locations of the existing monitoring stations submitted to CENICA</p>	
	<p>1-5. QA/QC procedures are improved using the standard manuals in at least two model cities by the</p>	<p>1-5. Reports on the QA/QC system submitted to CENICA</p>	

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Annex1: Project Design Matrix (PDM)

	end of project.	
<p>1-6. At least one staff from the 80% of existing local networks (25 as of January 2007) participated in the seminar/training workshop on proper air quality monitoring held by CENICA by the end of project.</p> <p>1-7. Necessary actions to implement the standard air quality monitoring are identified in the 80 % of existing local networks (25 as of January 2007) by the end of project.</p>	<p>1-6. Attendance list of the training workshops</p> <p>1-7. Reports on the identification of necessary actions to implement air quality monitoring according to the standard manuals submitted to CENICA</p>	
<p>2. The existing air quality monitoring equipment calibration system in Mexico is improved.</p>	<p>2-1. A master plan on the improvement of the existing air quality monitoring equipment calibration system is finalized by April 2007.</p> <p>2-2. At least two CENICA staffs can lecture on calibration of monitoring equipment by the end of project.</p> <p>2-3. At least one staff member of 80% of existing local networks (25 as of January 2007) can acquire calibration methods of air quality monitoring equipment based on standard manual by the end of project.</p> <p>2-4. With preparation of 46 necessary SOP's, CENICA acquires ISO 17025 accreditation (NMX-EC-17025-IMMC-2006) as calibration laboratory by May 2008.</p>	<p>2-1. A master plan on the improvement of the existing air quality monitoring equipment calibration system</p> <p>2-2. Evaluation report of the lecture at the seminars by a Japanese expert team</p> <p>2-3. Results of the achievement test at the training workshop held by CENICA</p> <p>2-4. ISO17025 certificate</p>
<p>3. Studies that complement existing air quality monitoring are carried out.</p>	<p>3.1. Locations of the existing air quality monitoring stations are evaluated in two model cities by the end of project. (same as 1-4)</p> <p>3.2. A group of experts on the use of different models including dispersion, receptor, meteorological, photochemical, transport is formed by the end of the project.</p>	<p>3-1. Reports on evaluation of the locations of the existing monitoring stations submitted to CENICA (same as 1-4)</p> <p>3-2. List of the participants completed the training program.</p>

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Annex1: Project Design Matrix (PDM)

<p>4. Capacity to conduct management and analysis of air quality monitoring data in Mexico is strengthened.</p>	<p>3.3. Scientific information based on the measurement of VOCs in two model cities is submitted to the policy makers by the end of project. 3.4 Scientific information based on the measurement of PM2.5 in two model cities is submitted to the policy makers by the end of project. 4-1. The standard manual (Vol. 6) on air quality monitoring data management and the monitoring data analyzing tool are prepared by April 2007. 4-2. At least two staff of INE including CENICA can lecture on air quality monitoring data management and basic analysis by the end of project. 4-3. The way how the air quality monitoring data is utilized is reviewed based on the results of the air quality monitoring data analysis in two selected cities by the end of project. 4-4. One staff of the 80 % of the existing local networks (25 as of January 2007) have participated in capacity development program regarding data management and analysis.</p>	<p>3-3. Study report 3-4. Study report 4-1. The standard manual on management and analysis of air quality management 4-2. Evaluation report of the lecture at the seminars by a Japanese expert team 4-3. Reports on the review of existing air quality management measures submitted to CENICA 4-4. Attendance list of the training workshops</p>	
<p>5. Accessibility of the general public and policy makers towards information about air quality is increased.</p>	<p>5-1. The ratio of data transmission to SINAICA increases by the end of project. 5-2. Additional six local networks become connected to SINAICA by the end of Project. 5-3. Air quality information communication media such as a computer display showing SINAICA pages is installed in two model cities by the end of project. 5-4. Persons responsible for environmental programs of the State governments attend the seminars on the results of the whole project.</p>	<p>5-1. SINAICA database 5-2. SINAICA database 5-3. Record of official announcement of the introduction of the information communication media 5-4. Attendance lists of the seminars</p>	

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Annex1: Project Design Matrix (PDM)

6. The National Air Quality Monitoring Program 2007-2010 is prepared.	6-1. The National Air Quality Monitoring Program (PNMA) 2007-2010 is prepared by the end of Project.	6. Document of PNMA 2007-2010
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(Activities)	(Inputs)	
<p>1-1. CENICA, with the help of the Japanese expert team, modifies the existing draft manuals on air quality monitoring (1. Air quality monitoring, 2. Monitoring network design, 3. Installation of monitoring equipment, 4. Operation, maintenance and calibration of monitoring equipment, 5 QA/QC, 7. Audit by the federal Government).</p> <p>1-2. CENICA, with the participation of staffs of local networks, finalizes and authorizes the monitoring manual (Vol. 1 to Vol.5 and Vol.7).</p> <p>1-3. CENICA prepares NOM Final Version for air quality monitoring.</p>	<p>"CENICA"</p> <p>1. Project staff (Project Director, Project Manager, counterpart personnel, administrative personnel)</p> <p>2. Buildings and facilities</p> <p>3. Project operation costs</p>	<p>1. Model cities selected by the committee agree to participate in the project.</p> <p>2. Those who have acquired skills through the trainings under the project remain engaged in air quality monitoring.</p> <p>3. The deployment of necessary staffs for drafting PNMA 2007-2010</p>
<p>1-4. CENICA, with the support of the Japanese expert team, evaluates the locations of monitoring stations in at least 2 model cities and encourage them to implement QA/QC procedures according to standard monitoring manuals and give feedback to revising standard monitoring manuals.</p> <p>1-5. CENICA, with the help of Japanese expert team, designs and conducts capacity development programs in air quality monitoring according to the standard manuals for the local governments (to be carried out in conjunction with 2-3 if possible).</p> <p>1-6. CENICA, SEMARNAT and the Japanese expert team promote equipping and staffing for air quality monitoring in local governments.</p>	<p>"JICA"</p> <p>1. Dispatch of Japanese experts</p> <p>2. Hiring local experts</p> <p>3. Equipment, machinery, materials</p> <p>4. Trainings in Japan</p>	<p>Pre-conditions Financial and human resources are allocated to CENICA to implement the project after the change of the administration at the end of 2006.</p>
<p>2-1. A master plan to improve the existing air quality monitoring equipment calibration system is prepared (including the establishment of the ozone primary and the secondary standard laboratory under CENICA).</p> <p>2.2. Capacity of CENICA to calibrate air quality monitoring equipment is strengthened.</p>		

Annex1: Project Design Matrix (PDM)

<p>2-3. CENICA, with the help of the Japanese expert team, designs and conducts capacity development programs in calibration of air quality monitoring equipment according to the standard manual prepared by the Project for the local governments (to be carried out in conjunction with 1-5 if possible).</p> <p>2-4. CENICA develops 46 SOPs and acquires the accreditation of ISO 17025 (NMX-EC-17025-IMMC-2006) as calibration laboratory.</p>	<p>3-1. CENICA, with the support of the Japanese expert team, conducts studies on designing/evaluating an air quality monitoring network using hybrid ISC-ST3 model in at least 2 model cities.</p> <p>3-2. CENICA conducts studies and capacity development on effective utilization of monitoring data through the use of models and organizing seminar/workshops.</p> <p>3.3 CENICA conducts studies on VOCs.</p> <p>3.4 CENICA conducts studies on PM 2.5.</p>	<p>4-1. CENICA, with the support of the Japanese expert team, finalizes and authorizes the monitoring data management manual (Vol. 6).</p> <p>4-2. CENICA, with the support of the Japanese expert team, prepares and applies the analyzing tool for monitoring data (including analysis correlation between concentration and meteorology, trend analysis, and data relation between monitoring stations).</p> <p>4-3. CENICA, with the support of the Japanese expert team, analyzes the monitoring data of 2 selected cities, and reviews the way how the air quality monitoring data is utilized in the cities.</p> <p>4-4. CENICA, with the support of the Japanese expert team, conducts capacity development of the local governments for management and analysis of air quality monitoring data according to the standard manual.</p>	<p>5-1. Capacity to provide information about air quality through SINAICA is improved.</p>
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Annex1: Project Design Matrix (PDM)

<p>5-2. CENICA and SEMARNAT promote that the model cities introduce effective media, such as a computer display showing SINAICA pages to disseminate air quality monitoring data to the general public in the model cities.</p> <p>5-3. SEMARNAT holds seminars to present the results of the whole project for each of the general public (including NGOs, academies, private companies) and policy makers (including government staff).</p>	
<p>6-1. CENICA, in collaboration with the Japanese expert team, prepares a draft PNMA 2007-2010 for criteria air pollutants based on identification of current status and results of the PNMA 2003-2008.</p> <p>6-2. CENICA consults with stakeholders on the draft PNMA.</p>	

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ANEX 2: The Strengthening of Air Monitoring Program in the Mexico Project Director: President of National Institute of Ecology. Project Manager: General Director of CENCA
 Plan of Operation 1/4

Activity	2005			2006			2007			2008		
	10-12	1-3	4-6	7-9	10-12	1-3	4-6	7-9	10-12	1-3	4-6	7-9
Joint Terminal Evaluation												
Revision of Station Period of JICA Experts in 2007												
Revision of Process Report												
Objective Verifiable Indicators for Project Purpose												
1. 18 Local Networks Reliable Audit												
2. 18 Networks Utilization for Review Evaluation												
3. Local Air Quality Increase Discussion												
4. SINAQA Access Control Increase												
1. Capacity to Collect Reliable Air Quality Monitoring Data in Mexico's Standard												
1-1 Preparation of Monitoring Manual												
1-2 NMA Coordination												
1-3 Encourage Implementation of CENCA Audit												
1-4-1 Financial for 1st Network												
1-4-2 Audit for 1st Network												
1-4-3 Audit for 2nd Network												
1-5. Capacity Development for Local Networks (Operation, Calibration & Maintenance)												
1-5-1 Preparation of Textbook												
1-5-2 Workshop												
1-6 Preparation of Equipment and Staffing												
1-6-1 Local Networks												
1-6-2 Other Local Networks												
1-6-3 Standard Manuals												
1-6-4 CENCA Staff as Lecturer												
1-6-5 CENCA Staff as Auditor for Station												
1-6-6 Model of Improvement of CENCA												

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ANNEX 2: The Strengthening of Air Monitoring Program in the Mexico										Project Director: President of National Institute of Ecology, Project Manager: General Director of							
Plan of Operation 2/4					2007		2008		2009								
Joint Terminal Evaluation	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014							
10-12-05	1-6	7-9	10-12-07	1-3	4	5	6	7	8	9	10	11	12	13	14	15	16
Quality of Station Report of all CA Events in 2007																	
2. Air Quality Monitoring Equipment Calibration System in Mexico is Improved																	
2-1 Preparation of Calibration Master Plan CENCA... Completed																	
2-2 Enhancement of Calibration Capacity of CENCA																	
2-2-1 Procurement of Lab																	
2-2-2 Recruitment																	
2-2-3 Procurement of Necessary Equipment																	
2-2-4 Procurement of Chemicals																	
2-2-5 Chemical Calibration																	
2-3 Capacity Development for Local Networks																	
2-4 ISO17025 Accreditation (SRP, Environmental)																	
2-4-1 Development of Quality System																	
2-4-2 Approval for Proficiency Test (SRP)																	
2-4-3 Approval by Ministry of Economy as National Reference Laboratory																	
2-4-4 Proficiency Test																	
2-4-5 Accreditation (SRP, Environmental) by ANE (SE) as National Reference Laboratory																	
2-4-6 Accreditation for ISO17025 Accreditation for CENCA																	
Minor Corrective Action Plan for CENCA																	
2-1 Calibration Master Plan																	
2-2 CENCA Staff as Instructors																	
2-4 ISO17025 Certificate																	

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ANEX 2: The Strengthening of Air Monitoring Program in the Mexico
 Plan of Operation 3/4

Project Director: President of National Institute of Ecology, Project Manager: General Director of

Joint Terminal Evaluation	2006			2007			2008			JOC Jul. 10, 2007									
	10-12	1-3	4-6	7-9	10-12	1-3	4	5	6		7	8	9	10	11	12	1	2	3
Outline of Raw Data Based of ICA Exports in 2006																			
3. Studies that Complement Existing Air Quality Monitoring area Carried Out																			
3-1 Design and Evaluation Network Using Hybrid ISC-3D Model																			
3-1-1 Development of Hybrid ISC-3D Model																			
3-1-2 Report for Simulation																			
3-1-3 Selection of 2nd Model City																			
3-1-4 Collection of Data for 2nd Model City																			
3-1-5 Construction of Simulation Model for 2nd Model City																			
3-1-6 Report for 2nd Model City																			
3-2 Studies on Monitoring Data through Model																			
3-3 VCR Studies																			
3-4 FR 5 Studies																			
All or Objectives Verifiable Indicators for OI 04-3																			
3-1 Report of Location Evaluation for 2nd Model City																			
3-2 Study Report of VCR																			
3-4 Study Report of FR 5																			

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JCC Jul. 10, 2007

Activity	2005			2006			2007			2008												
	10-12	1-3	4-6	7-9	10-12	1-3	4	5	6	7	8	9	10	11	12	1	2	3	4-6	7-9		
4. Capacity in Conduct, Management and Analysis of Air Quality Monitoring Data in Mexico's Strengthened																						
4.1. Application Data Management Manual																						
4.2. Application of Analysis Tool																						
4.2-1. Application of Analysis Tool																						
4.2-2. Application of Analysis Tool																						
4.3. Analysis of Monitoring Data of 2 Major Cities in Mexico																						
4.3-1. Analysis of Monitoring Data of 2 Major Cities in Mexico																						
4.3-2. Analysis of Monitoring Data of 2 Major Cities in Mexico																						
4.4. Capacity Development of Local Networks																						
4.4-1. Capacity Development of Local Networks																						
4.4-2. Capacity Development of Local Networks																						
4.4-3. Capacity Development of Local Networks																						
5. Accessibility of the General Public and Policy Makers to Information about Air Quality is Increased																						
5.1. Accessibility of the General Public and Policy Makers to Information about Air Quality is Increased																						
5.1-1. Accessibility of the General Public and Policy Makers to Information about Air Quality is Increased																						
5.1-2. Accessibility of the General Public and Policy Makers to Information about Air Quality is Increased																						
5.2. Promotional Introduction of Effective Media in Major Cities																						
5.2-1. Promotional Introduction of Effective Media in Major Cities																						
5.2-2. Promotional Introduction of Effective Media in Major Cities																						
5.3. Seminar to Present the Result of Water Pollution																						
5.3-1. Seminar to Present the Result of Water Pollution																						
5.3-2. Seminar to Present the Result of Water Pollution																						
6. The National Air Quality Monitoring Program (ENVA for Criteria Air Pollutants) 2007 - 2010 is Prepared																						
6.1. Preparation of Draft ENVA 2007-2010																						
6.1-1. Preparation of Draft ENVA 2007-2010																						
6.1-2. Preparation of Draft ENVA 2007-2010																						
6.2. Consultation with Stakeholders																						
6.2-1. Consultation with Stakeholders																						
6.2-2. Consultation with Stakeholders																						

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Annex 3 : Accomplishment of the Project

(1) Accomplishment of Inputs

Plan as per PDM/RD	Source/Method	Results (as of February, 14, 2008)																														
1 Mexican side																																
1.1 Counterpart personnel	Review record of Inputs	<p>At present, 16 persons from CENICA/INE are assigned as C/P for the Project as shown in the tables below.</p> <p>Table(1)-1.1a Project management C/P</p> <table border="1"> <thead> <tr> <th>Position in the Project</th> <th>#</th> <th>Position /Organization</th> </tr> </thead> <tbody> <tr> <td>1 Project Director</td> <td>1</td> <td>President, INE</td> </tr> <tr> <td>2 Project Manager</td> <td>1</td> <td>Director General, CENICA, INE</td> </tr> <tr> <td>Total</td> <td>2</td> <td></td> </tr> </tbody> </table> <p>Table(1)-1.1.b: C/P from CENICA Tecamachalco and Iztapalpa currently assigned.</p> <table border="1"> <thead> <tr> <th></th> <th>#</th> <th>Remarks</th> </tr> </thead> <tbody> <tr> <td>1 C/P responsible for Output 1, 2, 4, 5 and 6.</td> <td>1</td> <td>Director, CENICA-T</td> </tr> <tr> <td>2 C/P responsible for Output 3</td> <td>1</td> <td>Director, CENICA-I</td> </tr> <tr> <td>3 Technical C/P from CENICA (Tecamachalco)</td> <td>6</td> <td>Staff of Sub-direction of Evaluation of Emission and Atmospheric Monitoring, including three technical engineers working on contract basis.</td> </tr> <tr> <td>4 Technical C/P from CENICA-I (Iztapalpa)</td> <td>6</td> <td>-Staff of Sub-direction of Research on Atmospheric Contamination -Staff of Sub-direction on Integral Analysis of the Atmospheric Contamination -Staff or Sub-direction of Evaluation of Emission and Atmospheric Monitoring</td> </tr> <tr> <td>Total</td> <td>14</td> <td></td> </tr> </tbody> </table> <p>(For details, please see Appendix A-1)</p>	Position in the Project	#	Position /Organization	1 Project Director	1	President, INE	2 Project Manager	1	Director General, CENICA, INE	Total	2			#	Remarks	1 C/P responsible for Output 1, 2, 4, 5 and 6.	1	Director, CENICA-T	2 C/P responsible for Output 3	1	Director, CENICA-I	3 Technical C/P from CENICA (Tecamachalco)	6	Staff of Sub-direction of Evaluation of Emission and Atmospheric Monitoring, including three technical engineers working on contract basis.	4 Technical C/P from CENICA-I (Iztapalpa)	6	-Staff of Sub-direction of Research on Atmospheric Contamination -Staff of Sub-direction on Integral Analysis of the Atmospheric Contamination -Staff or Sub-direction of Evaluation of Emission and Atmospheric Monitoring	Total	14	
Position in the Project	#	Position /Organization																														
1 Project Director	1	President, INE																														
2 Project Manager	1	Director General, CENICA, INE																														
Total	2																															
	#	Remarks																														
1 C/P responsible for Output 1, 2, 4, 5 and 6.	1	Director, CENICA-T																														
2 C/P responsible for Output 3	1	Director, CENICA-I																														
3 Technical C/P from CENICA (Tecamachalco)	6	Staff of Sub-direction of Evaluation of Emission and Atmospheric Monitoring, including three technical engineers working on contract basis.																														
4 Technical C/P from CENICA-I (Iztapalpa)	6	-Staff of Sub-direction of Research on Atmospheric Contamination -Staff of Sub-direction on Integral Analysis of the Atmospheric Contamination -Staff or Sub-direction of Evaluation of Emission and Atmospheric Monitoring																														
Total	14																															
1.2 Land and facilities for the Project	-ditto-	Land and facilities necessary for the Project activities have been made available. The Project Office was provided in the Office of CENICA Tecamachalco located in the premise of PROFEPA in Mexico City.																														
1.3 Running expenses for the implementation of the Project	-ditto-	<p>So far, approximately MX\$9,780,000, which is equivalent to US\$889,090, has been allocated as running expenses for the implementation of the Project. Major items include the contracts for the technical engineers, the consultancies to improve the operation of SINAICA, and the modifications made to the facilities of the Laboratory for Calibrations and Standards Transfers.</p> <p>Table (1)-1.3: Provision of running expenses by the Mexican fiscal year (Jan-Dec). Unit=peso (1US\$=11.00MX\$)</p> <table border="1"> <thead> <tr> <th>MFY 2005 (Oct-)</th> <th>MFY 2006</th> <th>MFY2007</th> <th>MFY 2008</th> <th>Total</th> </tr> </thead> <tbody> <tr> <td>\$1,030,000</td> <td>\$2,250,000</td> <td>\$3,250,000</td> <td>\$3,250,000</td> <td>\$9,780,000</td> </tr> </tbody> </table>	MFY 2005 (Oct-)	MFY 2006	MFY2007	MFY 2008	Total	\$1,030,000	\$2,250,000	\$3,250,000	\$3,250,000	\$9,780,000																				
MFY 2005 (Oct-)	MFY 2006	MFY2007	MFY 2008	Total																												
\$1,030,000	\$2,250,000	\$3,250,000	\$3,250,000	\$9,780,000																												
2 Japanese side																																
2.1 Dispatch expert	Review record of Inputs	<p>So far, ten experts have been dispatched from Japan as shown in the table below</p> <p>Table(1) 2.1 Dispatch of Japanese Expert Team by Japanese Fiscal Year (Apr-Mar)</p> <table border="1"> <thead> <tr> <th>Technical Fields</th> <th>JFY 2006 (Oct-Mar,2006)</th> <th>JFY 2006</th> <th>JFY 2007 (up to*)</th> <th>Total (m/m)</th> </tr> </thead> <tbody> <tr> <td>1 Chief Advisor</td> <td>4*</td> <td>6.94*</td> <td>3.89</td> <td>14.83</td> </tr> </tbody> </table>	Technical Fields	JFY 2006 (Oct-Mar,2006)	JFY 2006	JFY 2007 (up to*)	Total (m/m)	1 Chief Advisor	4*	6.94*	3.89	14.83																				
Technical Fields	JFY 2006 (Oct-Mar,2006)	JFY 2006	JFY 2007 (up to*)	Total (m/m)																												
1 Chief Advisor	4*	6.94*	3.89	14.83																												

Annex 3 : Accomplishment of the Project

Plan as per PDM/RD	Source/ Method	Results (as of February 14, 2008)																									
		2	Air Quality Monitoring	3.5	5.03*	3.13	11.66																				
		3	Environmental Measurement	3.5	4.4*	3.8	11.7																				
		4	Air Quality Monitoring Data Management / Analysis & Environmental Policy	2.47	2.53*	0.8	5.8																				
		5	Air Quality Monitoring Network Design / Network System Engineering (I)	0.5	0	0	0.5																				
		6	Air Quality Monitoring Network Design / Network System Engineering (II)	0	0.5	0	0.5																				
		7	Air Pollution Monitoring	2.5	6	4.14	12.64																				
		8	Gaseous Air Pollutants Analysis	0.73	1.13	1.6	3.46																				
		9	Aerosol Air Pollutants Analysis	0	1.13	1.6	2.73																				
		10	Coordinator	1	1	0	2																				
		Total (m/m) (Including 1.4 m/m for home assign)		18.2	28.66	18.96	65.82																				
		* This figure includes the period of home assign (For details, please see Appendix B-1)																									
2.2 Training in Japan		So far, six persons in total have been sent for training in Japan in the training course titled "Air Quality Monitoring and Data Management". The organizations of the trainees are one from CENICA Tecamachalco and five from the State Governments.																									
		Table (1)-2.3: Mexican personnel trained in Japan by the Japanese fiscal year (April-March)																									
		<table border="1"> <thead> <tr> <th>JFY</th> <th>JFY 2005</th> <th>JFY 2006</th> <th>JFY2007</th> <th>Total</th> </tr> </thead> <tbody> <tr> <td># of persons</td> <td>0</td> <td>2</td> <td>4</td> <td>6</td> </tr> <tr> <td>Organization of the trainees</td> <td></td> <td>staff of CENICA-T and a State Government official in charge of local networks</td> <td>State Government officials in charge of local networks</td> <td></td> </tr> </tbody> </table>					JFY	JFY 2005	JFY 2006	JFY2007	Total	# of persons	0	2	4	6	Organization of the trainees		staff of CENICA-T and a State Government official in charge of local networks	State Government officials in charge of local networks							
JFY	JFY 2005	JFY 2006	JFY2007	Total																							
# of persons	0	2	4	6																							
Organization of the trainees		staff of CENICA-T and a State Government official in charge of local networks	State Government officials in charge of local networks																								
2.3 Provision of equipment and machinery		So far, equipment and machinery, which is equivalent to approximately 67, 811 thousand yen has been disbursed for procurement of the equipment and machinery. Major items include equipment for the calibration and standard laboratory (Standard Reference Photometer (SRP) for O3, SO2 Analyzer, NOx Analyzer, CO Analyzer, O3 Analyzer, Calibrator (Dilutor Zero Air Supply), Standard Flow Meter, Mass Flow Controller; and equipment for complementary studies (Pyradiometer, GC-MS, PM1 Analyzer, BTX meter).																									
		Table (1)2.2 Disbursement related to the equipment and machinery by the Japanese fiscal year (April-March) Unit=Japanese Yen																									
		<table border="1"> <thead> <tr> <th></th> <th>JFY2005</th> <th>JFY2006</th> <th>JFY2007</th> <th>Total</th> </tr> </thead> <tbody> <tr> <td>Local Procurement</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> </tr> <tr> <td>International Procurement</td> <td>15,676,553</td> <td>52,134,562</td> <td>0</td> <td></td> </tr> <tr> <td>Total</td> <td>15,676,553</td> <td>52,134,562</td> <td>0</td> <td>67,811,115</td> </tr> </tbody> </table>						JFY2005	JFY2006	JFY2007	Total	Local Procurement	0	0	0	0	International Procurement	15,676,553	52,134,562	0		Total	15,676,553	52,134,562	0	67,811,115	
	JFY2005	JFY2006	JFY2007	Total																							
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Total	15,676,553	52,134,562	0	67,811,115																							
		(For details, please see Appendix B-2)																									
2.4 Local activity cost		So far, approximately 30,368 thousand yen has been allocated as local activity costs. Major items include employment costs, travel expenses, cost of report preparation, local training cost, office equipment including computer, copy machine, and miscellaneous.																									
		Table (1)2.3: Provision of running expenses by the Japanese fiscal year (April-March) Unit= Japanese Yen																									
		<table border="1"> <thead> <tr> <th>JFY-2005</th> <th>JFY-2006</th> <th>JFY2007 (-Dec. 2007)</th> <th>Total</th> </tr> </thead> <tbody> <tr> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>					JFY-2005	JFY-2006	JFY2007 (-Dec. 2007)	Total																	
JFY-2005	JFY-2006	JFY2007 (-Dec. 2007)	Total																								

Annex 3 : Accomplishment of the Project

Plan as per PDMURD	Source/ Method	Results (as of February, 14, 2008)			
		8,213,018	12,212,911	9,942,427	30,368,356

(For details, please see Appendix B-3)

(2) Accomplishment of Outputs

Narrative Summary	Objectively Verifiable Indicators	Source/ Method	Results (as of Feb 14, 2008)																							
Output 1. Capacity to collect reliable air quality monitoring data in Mexico is strengthened	1.1 The six standard manuals on air quality monitoring in Mexico are prepared by May 2007.	Review of the project reports, and approved manuals	Six kinds of the existing standard manuals of CENICA had been revised by May 2007, which were approved by the Director General of CENICA in the same month.																							
	1-2. At least two CENICA staffs can lecture on 1) overview of air quality monitoring, 2) monitoring network design, 3) installation of monitoring equipment, 4) operation, maintenance and calibration of monitoring equipments, and 5) QA/QC at seminars by the end of project.	Review of evaluation report prepared by the J/E	<p>At least two staff members of CENICA have become able to lecture on four of the five topics specified in the Indicator 1-2 already.</p> <p>With regard to the remaining topic (i.e. monitoring network design), it is expected that two staff members would become able to give lectures by the end of the Project.</p> <p>Table (2)-1.2: Number of staff of CENICA who can lecture on the topics specified in the Indicator 1-2</p> <table border="1"> <thead> <tr> <th></th> <th>Topics</th> <th>#</th> <th>Remarks</th> </tr> </thead> <tbody> <tr> <td>1)</td> <td>Overview of air quality monitoring</td> <td>2</td> <td>-Chief of Dep. of Atmospheric Monitoring, CENICA-T -Chief of Dep. of SINAICA, CENICA-T</td> </tr> <tr> <td>2)</td> <td>Monitoring network design</td> <td>0</td> <td>Two staff members of CENICA-I (i.e. Sub-dir of Integral Analysis of the Atmospheric Contamination & Chief of Dep. Transport and Impact of Atmospheric Contaminants) are expected to become able to give the relevant lecture by the end of the Project.</td> </tr> <tr> <td>3)</td> <td>Installation of monitoring equipment</td> <td>4</td> <td>-Chief of Dep. of Atmospheric Monitoring, CENICA-T -Chief, Dep. of SINAICA, CENICA-T -Two technical engineers*¹ CENICA-T</td> </tr> <tr> <td>4)</td> <td>Operation, maintenance and calibration of monitoring equipments</td> <td>4</td> <td>ditto</td> </tr> <tr> <td>5)</td> <td>QA/QC</td> <td>2</td> <td>-Chief of Dep. of Atmospheric Monitoring, CENICA-T -Chief of Dep. of QA/QC, CENICA</td> </tr> </tbody> </table> <p>(For details, see Appendix C-1)</p> <p>*¹It should be noted that these technical engineers work on contract basis and their contracts for the year 2008 have not been signed yet. (It is in the process according to Federal regulation).</p>		Topics	#	Remarks	1)	Overview of air quality monitoring	2	-Chief of Dep. of Atmospheric Monitoring, CENICA-T -Chief of Dep. of SINAICA, CENICA-T	2)	Monitoring network design	0	Two staff members of CENICA-I (i.e. Sub-dir of Integral Analysis of the Atmospheric Contamination & Chief of Dep. Transport and Impact of Atmospheric Contaminants) are expected to become able to give the relevant lecture by the end of the Project.	3)	Installation of monitoring equipment	4	-Chief of Dep. of Atmospheric Monitoring, CENICA-T -Chief, Dep. of SINAICA, CENICA-T -Two technical engineers* ¹ CENICA-T	4)	Operation, maintenance and calibration of monitoring equipments	4	ditto	5)	QA/QC	2
	Topics	#	Remarks																							
1)	Overview of air quality monitoring	2	-Chief of Dep. of Atmospheric Monitoring, CENICA-T -Chief of Dep. of SINAICA, CENICA-T																							
2)	Monitoring network design	0	Two staff members of CENICA-I (i.e. Sub-dir of Integral Analysis of the Atmospheric Contamination & Chief of Dep. Transport and Impact of Atmospheric Contaminants) are expected to become able to give the relevant lecture by the end of the Project.																							
3)	Installation of monitoring equipment	4	-Chief of Dep. of Atmospheric Monitoring, CENICA-T -Chief, Dep. of SINAICA, CENICA-T -Two technical engineers* ¹ CENICA-T																							
4)	Operation, maintenance and calibration of monitoring equipments	4	ditto																							
5)	QA/QC	2	-Chief of Dep. of Atmospheric Monitoring, CENICA-T -Chief of Dep. of QA/QC, CENICA																							
	1-3. At least two CENICA staffs acquire steps to conduct audit on air quality monitoring stations by the end of project.	Review of evaluation report prepared by the J/E	<p>Two staff members of CENICA Tecamachalco (Chief of Dept. of Atmospheric Monitoring and a technical engineer) are considered to have acquired steps to conduct audit on air quality monitoring stations already. They conducted an audit of the monitoring stations at Cruz Roja and Nativitas in the City of Salamanca in December 2007 in accordance with the standard manual on audit, whose performance was judged to satisfy the Indicator 1-3 by the J/E Team.</p> <p>For information, it was the first full-fledged technical audit</p>																							

Annex 3 : Accomplishment of the Project

Narrative Summary	Objectively Verifiable Indicators	Source/ Method	Results (as of Feb 14, 2008)								
	<p>1-4. Design of Locations of air quality monitoring network are evaluated in at least two model cities by the end of the project.</p>	<p>Review of reports on evaluation of the locations of the existing monitoring stations submitted to CENICA, questionnaire and interview with C/P and Model Cities</p>	<p>conducted by CENICA Tecamachalco.</p> <p>Evaluation of the monitoring network was conducted in one Model City and the final report will be ready in March 2008. Evaluation in another Model City will be done by the end of the Project.</p> <p>- (1) <u>The first Model City for evaluation of monitoring network (i.e. Salamanca):</u> Evaluation, using the hybrid model developed under Output 3 was conducted and the first report was prepared in March 2007. The report is being updated according to an agreement among the J/E team, CENICA, and SEMARNAT, in order to use updated and validated meteorological and emission inventory data. The modification is expected to be completed by the end of March 2008.</p> <p>- (2) <u>The second Model City for the same (i.e. Puebla):</u> It is a plan to conduct an evaluation from the middle of July to the end of August and to prepare a report in September 2008 .</p>								
	<p>1-5. QA/QC procedures are improved using the standard manuals in at least two model cities by the end of project.</p>	<p>Review of reports on the QA/QC system submitted to CENICA, questionnaire and interview with C/P and Model Cities</p>	<p>QA/QC procedures were judged to have been improved in one of the Model Cities. A technical audit on the subject for another Model City is at the planning stage</p> <p>- (1) <u>The first Model City for improvement of QA/QC (i.e. Salamanca):</u> The standard manuals have been used in Salamanca according to the concerned officials. A technical audit was conducted in December 2007 and their QA/QC procedures were judged to have been improved.</p> <p>- (2) <u>The second Model City for the same (i.e. Puebla):</u> It is a plan to conduct a technical audit in June 2008 to see if their QA/QC procedures are based on the standard manuals.</p>								
	<p>1-6. At least one staff from the 80% of existing local networks (25 as of January 2007) participated in the seminar/training workshop on proper air quality monitoring held by CENICA by the end of project.</p>	<p>Review of the situation of attendance list of the training workshops</p>	<p>So far, several workshops on different issues regarding proper air quality monitoring were held by CENICA in 2006-2007, in which the personnel concerned with 20 networks, which correspond to <u>80%</u> of the total number of the local networks in January 2007, participated. (32 persons in total).</p> <p style="text-align: right;">(See Appendix D-1 for details)</p>								
	<p>1-7. Necessary actions to implement the standard air quality monitoring are identified in the 80 % of existing local networks (25 as of January 2007) by the end of project.</p>	<p>Review of reports on the identification of necessary actions to implement air quality monitoring according to the standard manuals submitted to CENICA</p>	<p>So far, 11 reports covering 15 networks, which correspond to <u>60%</u> of the total number of the local networks before January 2007, have been submitted to CENICA. In addition, six reports concerning 7 more networks are under preparation, which are expected to be submitted to CENICA by the end of the Project.</p> <p>It is, therefore, expected that, in total, the reports covering at least 22 networks, which would correspond to <u>88%</u>, would be submitted to CENICA by the end of the Project.</p> <p>Table(2)-1.7: Ratio of the local networks (NW) for which necessary actions to implement the standard air quality monitoring are identified</p> <table border="1" data-bbox="699 1899 1324 1928"> <thead> <tr> <th>Status of submission of the</th> <th># of</th> <th># of NW</th> <th>Ratio</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>	Status of submission of the	# of	# of NW	Ratio				
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Annex 3 : Accomplishment of the Project

Narrative Summary	Objectively Verifiable Indicators	Source/ Method	Results (as of Feb 14, 2008)																													
			report to CENICA	report	covered by the report	of # of NW to 25																										
			1) Already submitted(=A)	11	15	60%																										
			2) Under preparation (=B)	6	7	28%																										
			3) Preparation has not started yet (=C)	2	2	8%																										
			4) Under preparation but for internal use (=B/C)	1	1	4%																										
			Total	20	25	100%																										
(See Appendix D-2 for details)																																
Output 2 The existing air quality monitoring equipment calibration system in Mexico is improved	2-1. A master plan on the improvement of the existing air quality monitoring equipment calibration system is finalized by April 2007.	Review of the master plan	The Master Plan for the calibration laboratory in CENICA Tecamachalco was prepared and was authorized by the General Director of CENICA in December 2006.																													
	2-2. At least two CENICA staffs can lecture on calibration of monitoring equipment by the end of project.	Review of the valuation report of the lecture at the seminars by the J/E team	Eight types of monitoring equipment for calibration exist at the calibration laboratory of CENICA Tecamachalco. At least two staff members, including technical engineers ^{*1} , have become able to lecture on calibration of each of the monitoring equipment as shown in the table below. Table (2)-2.2: The number of CENICA staff who can lecture on calibration of monitoring equipment																													
	2-3. At least one staff member of 80% of existing local networks (25 as of January 2007) can acquire calibration methods of air quality monitoring equipment based	Review of the results of the achievement test at the training workshop held by CENICA	<table border="1"> <thead> <tr> <th>Equipment</th> <th>#</th> <th>Remarks</th> </tr> </thead> <tbody> <tr> <td>1) Standard Reference Photometer (SRP)</td> <td>2</td> <td>- Chief, Dept. of Atmospheric Monitoring - A technical engineer</td> </tr> <tr> <td>2) Mass flow Meter/roots meter for High Volume Air Sampler</td> <td>2</td> <td>-Chief, Dept. of Atmospheric Monitoring -A technical engineer</td> </tr> <tr> <td>3) Standard flow meter for low and medium flow</td> <td>2</td> <td>ditto</td> </tr> <tr> <td>4) Mass flow controller</td> <td>2</td> <td>ditto</td> </tr> <tr> <td>5) SO2 meter</td> <td>3</td> <td>-Chief, Dept. of Atmospheric Monitoring -Two technical engineers</td> </tr> <tr> <td>6) NO2 meter</td> <td>3</td> <td>ditto</td> </tr> <tr> <td>7) CO meter</td> <td>3</td> <td>ditto</td> </tr> <tr> <td>8) The equipment for calibration of several meteorological sensors</td> <td>3</td> <td>ditto</td> </tr> </tbody> </table> <p style="text-align: right;">(See Appendix C-3 for details)</p> <p>*1 It should be noted that they work on contract basis as consultants and their contracts for the year 2008 have not been signed yet as described in the result of the indicator 1-2 above.</p> <p>So far, at least one staff member from 96% of existing local networks in January 2007 (i.e. 25 networks), have acquired calibration methods of air quality monitoring equipment based on the standard manual through various means as shown in the table below.</p> <p>Table (2)-2.3: Ratio of the number of the local networks (NW) for which at least one staff has acquired calibration methods</p>				Equipment	#	Remarks	1) Standard Reference Photometer (SRP)	2	- Chief, Dept. of Atmospheric Monitoring - A technical engineer	2) Mass flow Meter/roots meter for High Volume Air Sampler	2	-Chief, Dept. of Atmospheric Monitoring -A technical engineer	3) Standard flow meter for low and medium flow	2	ditto	4) Mass flow controller	2	ditto	5) SO2 meter	3	-Chief, Dept. of Atmospheric Monitoring -Two technical engineers	6) NO2 meter	3	ditto	7) CO meter	3	ditto	8) The equipment for calibration of several meteorological sensors	3
Equipment	#	Remarks																														
1) Standard Reference Photometer (SRP)	2	- Chief, Dept. of Atmospheric Monitoring - A technical engineer																														
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Annex 3 : Accomplishment of the Project

Narrative Summary	Objectively Verifiable Indicators	Source/ Method	Results (as of Feb 14, 2008)											
			The means of acquiring the methods	# of staff who acquired methods	# of NW covered by the staff	Ratio of # of NW to 25								
	on standard manual by the end of project.		1) Through training workshop conducted by CENICA in Nov. 2007 (=A)	20	7	28%								
			2) Through on-site training by CENICA (=A')	12	7	28%								
			3) Through implementing monitoring in accordance with USA standard (=B)	n/a	1	4%								
			4) A'+B	1	4	16%								
			5) Methods acquired prior to the Project (=C)	13	5	20%								
			Total	44+	24	96%								
			(See Appendix D-3 for details)											
	2-4. With preparation of 46 necessary SOPs, CENICA acquires ISO 17025 accreditation (NMX-EC-17025-I MMC-2006) as calibration laboratory by May 2008.	ISO17025 certificate	<p>Forty-eight SOPs necessary to comply with MMX-EC-17025-IMMC-2006, equivalent to ISO 17025, have been prepared. They are the SOPs on (i) QA/QC procedures (23 in total); (ii) supporting equipment procedures (17 in total); and (iii) calibration and standard transfer (8 in total)</p> <p>On November 23, 2007, CENICA Tecamachico sent an application to Mexican Entity of Accreditation (EMA) for MMX-EC-17025-IMMC-2006, equivalent to ISO 17025 in Mexico accreditation in the fields of (i) calibration of flow transference pattern (through critical orifice) of High Volume Air Sampler, using the flow meter (roots meter), and (ii) calibration of ozone analyzers and generators, using the SRP provided through the Project). Via a letter dated January 8, 2008, EMA proposed the name of a group of evaluators, to which CENICA has conveyed its agreement already. At this moment, CENICA is awaiting the information from EMA on the timing of the visit of the above evaluators.</p> <p>Whether the accreditation is acquired by May 2008 is uncertain because most of the remaining steps are beyond the control of the Project. CENICA, however, expects that the accreditation would be acquired by May 2008; by the end of the Project at the latest.</p>											
Output 3 Studies that complement existing air quality monitoring are carried out	3.1. Locations of the existing air quality monitoring stations are evaluated in two model cities by the end of project. (same as 1-4)	Reports on evaluation of the locations of the existing monitoring stations submitted to CENICA (same as 1-4)	See the results of Indicator 1-4.											
	3.2. A group of experts on the use of different models including dispersion, receptor, meteorological, photochemical, transport is formed by the end of the project.	Review of questionnaires and interviews with J/E.	A group of experts on the use of dispersion model (including meteorological component) and receptor model has been formed in CENICA Iztapalapa through the Project as shown in the table below.											
			<p>Table (2)-3.2 Number of experts by the model</p> <table border="1"> <thead> <tr> <th>Type of Model</th> <th>#</th> <th>Position in CENICA</th> <th>Relevant Activity under Output 3</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>				Type of Model	#	Position in CENICA	Relevant Activity under Output 3				
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Annex 3 : Accomplishment of the Project

Narrative Summary	Objectively Verifiable Indicators	Source/ Method	Results (as of Feb 14, 2008)			
			1) Dispersion Model, including meteorological component	2	-Sub-director(1) -Chief (1)	Activity 3.1 & 3.2
			2) Receptor Model	2	-Sub-director (2) -Chief (2)	Activity 3.4
	3.3. Scientific information based on the measurement of VOCs in two model cities is submitted to the policy makers by the end of project.	Study report	<p>*Note: The Joint Evaluation Team found photochemical and transport models inappropriate to be included in the Indicator 3.2 in the first place because they are not related to the Activities under Output 3. (Related technical knowledge has not been transferred, accordingly)</p> <p>Field studies on VOCs have been conducted in one Model City and the final report is under preparation. Field studies in another Model City is at the planning stage. The relevant activities are planned to be completed by the end of the Project. Scientific information has been submitted to policy makers through technical and scientific seminars held during 2007. Scientific information is expected to be submitted to the policy makers via the final reports and seminars</p> <p><u>-(1) The first Model City for VOC (i.e. Salamanca):</u> In 2007, field measurements on VOCs were conducted in May, August, and November in collaboration with State Government of Guanajuato and Patronato de Salamanca and Universidad Autónoma Metropolitana Iztapalapa among others. A preliminary analytical report has been produced for all measurements and has been presented in three seminars and directly to the Institute of Ecology of Guanajuato. At present, CENICA Iztapalapa is preparing the final report, integrating validated results and data analysis of all field measurements, which is expected to be ready by March-April 2008. The report is planned to be submitted to the Director of Institute of Ecology of the State of Guanajuato, SEMARNAT and INE by the end of the project</p> <p><u>-(2) The second Model City for the same (i.e. Tula):</u> It is a plan to conduct field measurements during the period between April and August 2008. The final report is expected to be prepared and to be submitted to the Government of the state of Hidalgo, SEMARNAT and INE by the end of the Project.</p>			
	3.4 Scientific information based on the measurement of PM2.5 in two model cities is submitted to the policy makers by the end of project.	Study report	<p>Field studies on PM2.5 have been conducted in one Model City and the final report is under preparation. Field studies in another Model City is at the planning stage. The relevant activities are planned to be completed by the end of the Project. Scientific information via the final reports and seminars is expected to be submitted to the policy makers by the end of the Project.</p> <p><u>-(1) The first Model City for PM 2.5 (i.e. Salamanca):</u> In 2007, field studies on PM2.5 were conducted in May, August, and November in collaboration with State Government of Guanajuato and City of Salamanca among others. A preliminary analytical report has been produced for each batch of the study. At present, CENICA Iztapalapa is preparing the final report, integrating the results of all studies, which is expected to be ready by March-April 2008. The report is planned to be submitted to the Director of Institute of Ecology of Guanajuato State by the end of the project</p> <p><u>-(2)The second Model City for the same (i.e. Tula):</u> It is a plan</p>			

Annex 3 : Accomplishment of the Project

Narrative Summary	Objectively Verifiable Indicators	Source/ Method	Results (as of Feb 14, 2008)														
			to conduct field measurements during the period between April and August 2008. The final report is expected to be prepared and to be submitted to the Government of the state of Hidalgo, SEMARNAT, INE and Secretariat of Health by the end of the Project.														
<p>Output 4</p> <p>Capacity to conduct management and analysis of air quality monitoring data in Mexico is strengthened</p>	<p>4-1. The standard manual (Vol. 6) on air quality monitoring data management and the monitoring data analyzing tool are prepared by April 2007.</p> <p>4-2. At least two staff of INE including CENICA can lecture on air quality monitoring data management and basic analysis by the end of project.</p> <p>4-3. The way how the air quality monitoring data is utilized is reviewed based on the results of the air quality monitoring data analysis in two selected cities by the end of project.</p> <p>4-4. One staff of the 80 % of the existing local networks (25 as of January 2007) have participated in capacity development program regarding data management and analysis.</p>	<p>The standard manual on management and analysis of air quality monitoring</p> <p>Evaluation report of the lecture at the seminars by a Japanese expert team</p> <p>Reports on the review of existing air quality management measures submitted to CENICA</p> <p>Attendance list of the training workshops</p>	<p>The existing standard manual on air quality monitoring data management was revised and the monitoring data analyzing tool was prepared in April 2007.</p> <p>Two permanent staff members of INE (i.e. one from DGICUR* and the other from CENICA Tecamachalco) have become able to lecture on air quality management: they gave lectures in a workshop on data analysis organized by CENICA in July 2007, which were evaluated as satisfying the Indicator by the Japanese expert team.</p> <p>* General Direction of Research on Urban and Regional Contamination</p> <p>The reports, including review of existing air quality management measures, which cover the City of Salamanca and the City of Puebla among others, have been prepared by their respective state governments.</p> <p>A workshop on the data analysis tool developed by the Project was organized by CENICA in July 2007 in Mexico City, in which the personnel concerned with 22 networks, which correspond to 88% of the existing ones as of January 2007, participated.</p> <p align="right">(See Appendix D-4 for details)</p>														
<p>Output 5</p> <p>Accessibility of the general public and policy makers towards information about air quality is increased</p>	<p>5-1. The ratio of data transmission to SINAICA increases by the end of project.</p> <p>5-2. Additional six local networks become connected to SINAICA by the end of Project.</p>	<p>SINAICA database</p> <p>SINAICA database</p>	<p>The ratio of data transmission to SINAICA in 2007 has increased by 78%, comparing to the one in 2005.</p> <p align="center">Table (2)-5.1: Average ratio of data transmission from 2005-2007 (March-October)</p> <table border="1" data-bbox="805 1579 1220 1646"> <thead> <tr> <th>Year</th> <th>2005</th> <th>2006</th> <th>2007</th> </tr> </thead> <tbody> <tr> <td>Ratio</td> <td>44.5%</td> <td>73.4%</td> <td>79.2%</td> </tr> </tbody> </table> <p>Since the beginning of the Project, seven local networks have become connected to SINAICA as shown in the table below.</p> <p align="center">Table (2)-5.2: Local Networks that have got connected to SINAICA since the beginning of the Project</p> <table border="1" data-bbox="710 1881 1316 1937"> <thead> <tr> <th>Local Network (State)</th> <th>Type</th> <th>Time of connection</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>	Year	2005	2006	2007	Ratio	44.5%	73.4%	79.2%	Local Network (State)	Type	Time of connection			
Year	2005	2006	2007														
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Annex 3 : Accomplishment of the Project

Narrative Summary	Objectively Verifiable Indicators	Source/ Method	Results (as of Feb 14, 2008)																												
	<p>5-3. Air quality information communication media such as a computer display showing SINAICA pages is installed in two model cities by the end of project.</p>	<p>Record of official announcement of the introduction of the information communication media</p>	<table border="1" data-bbox="726 309 1324 526"> <tr><td>1)</td><td>Gomez Paracio (Durango)</td><td>Auto</td><td>Nov. 2005</td></tr> <tr><td>2)</td><td>Durango (Durango)</td><td>Auto</td><td>Jun. 2006</td></tr> <tr><td>3)</td><td>Tula-Tepeji (Hidalgo)</td><td>Manual</td><td>Aug. 2006</td></tr> <tr><td>4)</td><td>San Louis Potosi (San Louis Potosi)</td><td>Auto</td><td>Sep. 2006</td></tr> <tr><td>5)</td><td>Torreon (Coahuila)</td><td>Manual</td><td>Oct. 2006</td></tr> <tr><td>6)</td><td>Silao (Guanajuato)</td><td>Auto</td><td>Nov 2006</td></tr> <tr><td>7)</td><td>Villahermosa (Tabasco)</td><td>Auto</td><td>Aug. 2007</td></tr> </table> <p>Computer displays have been installed in one Model City already.</p> <p>-(1)The first Model City for communication media (i.e. <u>Salamanca</u>): In April 2006, five displays were installed in City Hall, Regional Center of Environmental Competitiveness, Office of Municipal Committee of Portable Water and Drainage of Salamanca, Center of Health, and Office of Institute of Ecology of the City of Salamanca.</p> <p>-(2)The second Model City for the same (Puebla): The local network of Puebla has submitted budget for displays to the estate. Three displays with GPS will be installed by the end of the project.</p>	1)	Gomez Paracio (Durango)	Auto	Nov. 2005	2)	Durango (Durango)	Auto	Jun. 2006	3)	Tula-Tepeji (Hidalgo)	Manual	Aug. 2006	4)	San Louis Potosi (San Louis Potosi)	Auto	Sep. 2006	5)	Torreon (Coahuila)	Manual	Oct. 2006	6)	Silao (Guanajuato)	Auto	Nov 2006	7)	Villahermosa (Tabasco)	Auto	Aug. 2007
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	<p>5-4. Persons responsible for environmental programs of the State governments attend the seminars on the results of the whole project.</p>	<p>Attendance lists of the seminars</p>	<p>An international seminar on the results of the whole Project is planned to be organized in September 2008, to which the persons responsible for environmental programs of the State governments will be invited among others.</p>																												
<p>Output 6</p>	<p>6-1. The National Air Quality Monitoring Program (PNMA) 2007-2010 is prepared by the end of Project</p>	<p>Document of PNMA 2007-2010</p>	<p>It has been decided to prepare the PNMA for the period 2007-2012, which coincides with the term of the office of the President Calderon, who was inaugurated in December 2006, instead of the period 2007-2010 as originally envisaged.</p> <p>The final draft is expected to be ready in June 2008 for internal consultation within INE.</p>																												
<p>The National Air Quality Monitoring Program 2007-2010 is prepared</p>																															

Annex 3 : Accomplishment of the Project

(3) Accomplishment of Project Purpose

Narrative Summary	Objectively Verifiable Indicators	Source/Methods	Results (as of Feb 14, 2008)																								
<p>The Mexican society recognizes importance of air quality monitoring and capacity of the local governments to provide and utilize reliable air quality information for policy planning and evaluation is strengthened.</p>	<p>1. Local governments: At least 18 local networks are confirmed by CENICA as providing reliable air quality monitoring data through SINAICA.</p>	<p>Review of CENICA's audit report</p>	<p>At the end of December 2007, as many as 18 local networks are confirmed by CENICA as providing reliable air quality monitoring data through SINAICA; and one more is expected to be added by the end of the Project.</p> <p>Table (3)-1: Evaluation by CENICA on the reliability of air quality monitoring data provided through SINAICA</p> <table border="1" data-bbox="673 533 1327 801"> <thead> <tr> <th></th> <th>Qualification</th> <th># of LNW</th> <th>Description of qualification</th> </tr> </thead> <tbody> <tr> <td>1)</td> <td>A</td> <td>18</td> <td>=Have <u>A</u> or <u>A'</u> in all of the themes of the evaluation</td> </tr> <tr> <td>2)</td> <td>A"</td> <td>1</td> <td>=Have <u>A</u> or <u>A'</u> in all of the themes but one exception. Expected to become A by the end of the Project</td> </tr> <tr> <td>3)</td> <td>B</td> <td>0</td> <td>=Do not have <u>C</u> in any themes</td> </tr> <tr> <td>4)</td> <td>C</td> <td>1</td> <td>=Have <u>C</u> in one or more themes</td> </tr> <tr> <td>5)</td> <td>N/I</td> <td>5</td> <td></td> </tr> </tbody> </table> <p>Reference in the above table: <u>A</u>=All of the assigned criteria accomplished <u>A'</u>=Most of the criteria accomplished <u>B</u>=More or less half of the criteria accomplished <u>C</u>= The criteria not accomplished</p> <p>(See Appendix D-5 for details)</p>		Qualification	# of LNW	Description of qualification	1)	A	18	=Have <u>A</u> or <u>A'</u> in all of the themes of the evaluation	2)	A"	1	=Have <u>A</u> or <u>A'</u> in all of the themes but one exception. Expected to become A by the end of the Project	3)	B	0	=Do not have <u>C</u> in any themes	4)	C	1	=Have <u>C</u> in one or more themes	5)	N/I	5	
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5)	N/I	5																									
<p>2. Local governments: At least 18 local networks are confirmed by CENICA as utilizing air quality monitoring data for policy planning or evaluation.</p>	<p>Review of CENICA's evaluation report</p>	<p>At present, as many as 15 local networks are confirmed by CENICA as utilizing air quality monitoring data for policy planning or evaluation; and five more are expected to be added in the list by the end of the Project.</p> <p>It is, therefore, expected that 20 local networks would be confirmed by CENICA as utilizing air quality monitoring data for policy planning and evaluation by the end of the Project.</p> <p>Table (3)-2: Evaluation by CENICA on the utilization of air quality monitoring data for policy planning or evaluation</p> <table border="1" data-bbox="673 1303 1327 1572"> <thead> <tr> <th></th> <th>Qualification</th> <th># of LNW</th> <th>Description of qualification</th> </tr> </thead> <tbody> <tr> <td>1)</td> <td>A</td> <td>15</td> <td>=Have two or more <u>A</u> in the themes of the evaluation</td> </tr> <tr> <td>2)</td> <td>A"</td> <td>5</td> <td>=Have one <u>A</u> or exist high possibility of <u>B</u> becoming A before September 2008</td> </tr> <tr> <td>3)</td> <td>B</td> <td>0</td> <td>=Will not finish the report completely before September 2008</td> </tr> <tr> <td>4)</td> <td>C</td> <td>0</td> <td>=Have <u>C</u> in all of the themes of the evaluation</td> </tr> <tr> <td>5)</td> <td>N/I</td> <td>5</td> <td></td> </tr> </tbody> </table> <p>Reference in the above table: <u>A</u>=Have prepared the report <u>B</u>=The report is under preparation <u>C</u>=No report has been prepared</p> <p>(See Appendix D-5 for details)</p>		Qualification	# of LNW	Description of qualification	1)	A	15	=Have two or more <u>A</u> in the themes of the evaluation	2)	A"	5	=Have one <u>A</u> or exist high possibility of <u>B</u> becoming A before September 2008	3)	B	0	=Will not finish the report completely before September 2008	4)	C	0	=Have <u>C</u> in all of the themes of the evaluation	5)	N/I	5		
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	<p>3. Local governments: Awareness of those who are responsible for environmental programs of the State</p>	<p>Questionnaires and interview with C/P, model cities, questionnaires to local networks</p>	<p>According to the results of the questionnaires to the officials in charge of the air quality monitoring networks at the State level, all of the respondents (i.e. the officials from 10 States) have observed increase of the awareness specified in the Indicator 3 of the Project Purpose.</p>																								

Annex 3 : Accomplishment of the Project

Narrative Summary	Objectively Verifiable Indicators	Source/Methods	Results (as of Feb 14, 2008)																
	governments towards importance of air quality monitoring is increased.																		
	4. Civil society: Access counts per month to SINAICA is increased.	SINAICA homepage counter	On average, a monthly visit to the web-site of SINAICA has been increased since the beginning of the Project as shown in the table below. Table (3)-4: Annual statistics of monthly visits to SINAICA site																
<table border="1"> <thead> <tr> <th></th> <th>2005</th> <th>2006</th> <th>2007</th> </tr> </thead> <tbody> <tr> <td>Max.</td> <td>14,934</td> <td>17,042</td> <td>18,762</td> </tr> <tr> <td>Min</td> <td>5,818</td> <td>9,183</td> <td>14,091</td> </tr> <tr> <td>Average</td> <td>11,514</td> <td>13,923</td> <td>16,674</td> </tr> </tbody> </table>					2005	2006	2007	Max.	14,934	17,042	18,762	Min	5,818	9,183	14,091	Average	11,514	13,923	16,674
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(4) Accomplishment of Overall Goal

Narrative Summary	Objectively Verifiable Indicators (PDM)	Source/Methods	Prospects (as of February 14, 2008)
Capacity of the Mexican society to manage air quality is strengthened. 1. Effective air pollution control measures are being planned, taken, and evaluated by local and federal governments. 2. Health risk, impacts on ecosystems, and economic losses due to air pollution are identified. 3. Air pollution contingency plans are applied when needed. 4. Civil society and policy makers increased their support to air quality management measures.	1. Federal Government: The number of the local networks whose air quality monitoring data are utilized in policy planning or evaluation by the federal government is increased.	Policy documents prepared by the federal government	The number is likely to increase. -The Objective 3 in the Strategy one of the Federal Program for the Environmental and Natural Resources Sector for 2007 - 2012, approved on January 21, 2008, is to develop the guidelines for the compulsory incorporation of air quality monitoring stations in localities with growing population or considerable industry activity and the integration of the air quality monitoring data to SINAICA.
	2. Federal and local governments: The number of research papers on health risk, impacts on ecosystems, and economic losses due to air pollution that can be utilized for policy planning or evaluation is increased.	Scientific journals and technical reports	The number is likely to increase. -Requests of different local governments to CENICA for collaboration in research projects related to the air quality impact have increased since the beginning of the Project. -According to the results of the questionnaires to the officials in charge of the air quality monitoring networks at the State level, all of the respondents (i.e. the officials from 10 States) answered that the number is likely to increase. In the State of Guanajuato, for example, the programs of improvement of air quality will be introduced in two cities (Salamanca and Leon) in 2008, in which the research in the field of health is included as a specific action. In the State of Jalisco, various studies on these themes will be carried out already through the agreement of collaboration with research institutions and universities.
	3. Local governments: The number of local governments that have established an air pollution contingency plan is increased.	Publications of the air pollution contingency plans	The number is likely to increase. -According to the results of the questionnaires to the officials in charge of the air quality monitoring networks at the State level, all of the respondents (i.e. the officials from 10 States) answered that the number is likely to increase. Some of them have already developed the plans. Others are planning to develop ones. For example, the State of Puebla is working on the establishment of the criteria and indicators to generate a plan of atmospheric contingencies in the State, which would be sustained in its majority in the results that are obtained through the project.
	4. Local governments: The number of local governments that utilize air quality monitoring	Local air quality management programs	The number is likely to increase. -According to the results of the questionnaires to the officials in charge of the air quality monitoring networks at the State level, all of the respondents (i.e. the officials from 10 States)

Annex 3 : Accomplishment of the Project

Narrative Summary	Objectively Verifiable Indicators (PDM)	Source/ Methods	Prospects (as of February 14, 2008)				
	data for policy planning or evaluations is increased.		answered that the number is likely to increase.				
	5. Civil society and policy makers: Budgets for air quality management measures at the federal and local levels are increased.	Budget documents of federal and local governments	<p>The number is likely to increase.</p> <p>-The Environmental Institutional Development Program (PDIA), which has been established to assist the State Governments in the activities oriented to equipping, studies or capacity building, has been giving financial support to install air quality monitoring systems, among others.</p> <p>For information, total amount of the federal budget for PDIA for MFY 2007 has increased, comparing to the total amount distributed the State Governments. Maximum federal budget for the subsidy regarding quality of air and registration for MFY 2008 is MX\$2,000,000 per state.</p> <p>Table (4)-5: PDIA-The distributed amount of MFY 2006 and the budget for MFY 2007</p> <table border="1" data-bbox="719 846 1329 947"> <tr> <td data-bbox="719 846 1145 898">The total amount distributed to the State Governments in MFY 2006</td> <td data-bbox="1145 846 1329 898">MX\$14,400,000</td> </tr> <tr> <td data-bbox="719 898 1145 947">The total amount of the budget approved for MFY 2007</td> <td data-bbox="1145 898 1329 947">MX\$ 18,907,159</td> </tr> </table> <p>- According to the results of the questionnaires to the officials in charge of the air quality monitoring networks at the State level, all of the respondents (i.e. the officials from 10 States) answered that the budget is likely to increase.</p>	The total amount distributed to the State Governments in MFY 2006	MX\$14,400,000	The total amount of the budget approved for MFY 2007	MX\$ 18,907,159
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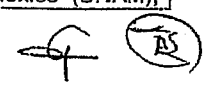
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Annex 4: Implementation Process of the Project

Abbreviation: C/P-counterpart personnel J/E-Japanese expert

Item	Source/Methods	Results (as of February 14, 2008)																																
1 Progress of Activities		<p>Overall: The Activities have been implemented according to the schedule delineated in the latest PO for the most part. It is expected that all of the planned Activities of the PDM will be completed by the end of the Project.</p> <p>Issues specific to each Output are highlighted in the rows below:</p>																																
(1) Activities under Output 1	Review of Activity Chart, progress reports, Questionnaire, Interview with C/P, J/E, target groups	<p>The Activities under Output 1 have been implemented almost as planned. It is expected that the planned Activities would be completed by the end of the Project.</p> <p>1. <u>Activity 1.1 & 1.2</u> (These Activity items are related to revision of the existing six standard manuals of CENICA for air quality monitoring as well as their approval): The manuals were revised, taking into account comments of local networks: they were approved in April 2007. In the beginning of the Project, however, it took time and effort for CENICA and the J/E team to reach a consensus on the contents of the manual Vol.2 ("Monitoring network design"). This was caused by insufficient definition of the scope of the revision as well as the contents of the manual in the documents that had been agreed by both Mexican and Japanese governments prior to the Project, including the PDM and the PO.</p> <p>In the process of revision, those six manuals were reorganized into five: the components of one of the manuals (i.e. the manual on QA/QC) have been incorporated into other manuals, mainly in the manual on operation, maintenance and calibration of monitoring equipments. The titles of some of the manuals have been changed, in order to make them more consistent with the contents.</p> <p>In addition, the manuals on operations and maintenance of six kinds of equipment for two makers each (i.e. 12 kinds of manuals in total) have been prepared in responding the needs of the air quality monitoring stations. (The standard manual on operation, maintenance and calibration of monitoring equipment is a general one).</p> <p style="text-align: center;">Table A: The standard manuals revised under Output 1</p> <table border="1" style="width: 100%; border-collapse: collapse; margin: 10px 0;"> <thead> <tr> <th colspan="2">Manuals before revision</th> <th colspan="2">Manuals after revision</th> </tr> <tr> <th>Vol</th> <th>Title</th> <th>Vol</th> <th>Title</th> </tr> </thead> <tbody> <tr> <td>1)</td> <td>Overview of air quality monitoring</td> <td>1)</td> <td>(No change)</td> </tr> <tr> <td>2)</td> <td>Monitoring network design</td> <td>2)</td> <td>Air quality monitoring network</td> </tr> <tr> <td>3)</td> <td>Installation of monitoring equipment</td> <td>3)</td> <td>Air quality monitoring system</td> </tr> <tr> <td>4)</td> <td>Operation, maintenance and calibration of monitoring equipments</td> <td>4)</td> <td>(No change)</td> </tr> <tr> <td>5)</td> <td>QA/QC</td> <td></td> <td>(Incorporated mainly in Vol.4)</td> </tr> <tr> <td>6)</td> <td>Audit by Federal Government</td> <td>6)</td> <td>(No change)</td> </tr> </tbody> </table> <p>It is noted that CENICA, at its own cost, are further improving the manuals at their own cost in order to accommodate the comments made by US EPA.</p> <p>2. <u>Activity 1-3</u> (This Activity item is related to preparation of NOM final version for air quality monitoring): The Project plans to develop a NOM, which lays down the use of the above mentioned manuals for air quality monitoring. After an initial internal discussion within CENICA, the Working Group on NOM, consisting of representatives from State Governments, Federal Governments such as Secretary of Health and Federal Commission of Electricity (CFE), National Center of Meteorology (CENAM), academic institutions such as National Autonomous University of Mexico (UNAM),</p>	Manuals before revision		Manuals after revision		Vol	Title	Vol	Title	1)	Overview of air quality monitoring	1)	(No change)	2)	Monitoring network design	2)	Air quality monitoring network	3)	Installation of monitoring equipment	3)	Air quality monitoring system	4)	Operation, maintenance and calibration of monitoring equipments	4)	(No change)	5)	QA/QC		(Incorporated mainly in Vol.4)	6)	Audit by Federal Government	6)	(No change)
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Annex 4: Implementation Process of the Project

Item	Source/Methods	Results (as of February 14, 2008)																																										
		<p>CENAM, etc.) has been established. The Working Group has prepared a preliminary draft of NOM, which was submitted to a sub-committee of the Committee of Environment and Natural Resources (COMARNAT) in the SEMARNAT for review in October 2007. Their comments were received in January 2008. The Working Group has been working on modification of the draft, reflecting their comments. Although some of the remaining steps are out of the control of the Project, CENICA expects that the final version of NOM would be prepared by the end of the Project.</p> <p>In addition, CENICA plans to transform their standard manuals into NMX (Norma Mexicana) at the later stage, which, however, may not be realized during the Project period.</p> <p style="text-align: center;">Table B: Major steps for establishment of NOM</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 5%;">Major Steps</th> <th style="width: 60%;">Responsible Party</th> <th style="width: 35%;">Status</th> </tr> </thead> <tbody> <tr> <td>1) Preparation of a preliminary draft by the Working Group</td> <td>WG</td> <td>Completed</td> </tr> <tr> <td>2) Submission of the preliminary draft to subcommittee of COMARNAT/SEMARNAT</td> <td>WG</td> <td>Completed</td> </tr> <tr> <td>3) Review by the subcommittee of COMARNAT</td> <td>Sub-committee of COMARNAT</td> <td>Completed</td> </tr> <tr> <td>4) Modification of the preliminary draft, reflecting the comments by the subcommittee</td> <td>WG</td> <td>Ongoing</td> </tr> <tr> <td>5) Submission of the draft to COMARNAT</td> <td>WG</td> <td></td> </tr> <tr> <td>6) Review by COMARNAT</td> <td>COMARNAT</td> <td></td> </tr> <tr> <td>7) Modification of the draft, reflecting the comments by COMARNAT</td> <td>WG</td> <td></td> </tr> <tr> <td>8) Submission of the modified draft to COFEMER/Secretary of Finance</td> <td>COMARNAT</td> <td></td> </tr> <tr> <td>9) Review by COFEMER</td> <td>COFEMER</td> <td></td> </tr> <tr> <td>10) Preparation of the final version of the draft, reflecting the comments by COFEMER</td> <td>WG</td> <td></td> </tr> <tr> <td>11) Publish the final draft in a Official Diary for comments by general public</td> <td>COFEMER</td> <td></td> </tr> <tr> <td>12) Preparation of final document, reflecting the comments of the general public</td> <td>WG</td> <td></td> </tr> <tr> <td>13) Publication of the NOM in a Official Diary</td> <td>Secretary of Economy</td> <td></td> </tr> </tbody> </table> <p>3. Activity 1-4 (This Activity item consists of two different activities: (i) evaluation of the locations of existing monitoring stations in the Model Cities, using the hybrid model developed through Activity 3-1; and (ii) promotion of QA/QC procedures, using the standard manuals revised through Activity 1-1). The first part of the Activity item has been treated as a part of the Activity 3-1, under which design and evaluation of monitoring networks in the Model Cities is implemented.</p>	Major Steps	Responsible Party	Status	1) Preparation of a preliminary draft by the Working Group	WG	Completed	2) Submission of the preliminary draft to subcommittee of COMARNAT/SEMARNAT	WG	Completed	3) Review by the subcommittee of COMARNAT	Sub-committee of COMARNAT	Completed	4) Modification of the preliminary draft, reflecting the comments by the subcommittee	WG	Ongoing	5) Submission of the draft to COMARNAT	WG		6) Review by COMARNAT	COMARNAT		7) Modification of the draft, reflecting the comments by COMARNAT	WG		8) Submission of the modified draft to COFEMER/Secretary of Finance	COMARNAT		9) Review by COFEMER	COFEMER		10) Preparation of the final version of the draft, reflecting the comments by COFEMER	WG		11) Publish the final draft in a Official Diary for comments by general public	COFEMER		12) Preparation of final document, reflecting the comments of the general public	WG		13) Publication of the NOM in a Official Diary	Secretary of Economy	
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12) Preparation of final document, reflecting the comments of the general public	WG																																											
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(2)Activities under Output 2	-ditto-	<p>Most of the Activities under Output 2 have been implemented as planned. It is expected that the all of the Activities of the PDM would be completed by the end of the Project. Completion of some of the sub-activities depends on the timing of accreditation approval of MMX-EC-17025-IMMC-2006, equivalent to ISO 17025 in Mexico. Major issues specific to each Activity are highlighted below.</p> <p>1. Activity 2-1, 2-2, 2-4: A Working Group for preparation of a master plan for renovation of calibration laboratory (i.e. Activity 1-1), implementation of the master plan (i.e. a part of Activity 1-2), and acquirement of MMX-EC-17025-IMMC-2006, equivalent to ISO 17025 in Mexico (i.e. Activity 1-4) has been formed, which consists of the relevant personnel from both sides: Director, Sub-director of Evaluation of Emission an Atmospheric Monitoring, Chief of Department of Atmospheric Monitoring, Chief of Department of QA/QC, three temporary technical engineers working for the</p>																																										

Annex 4: Implementation Process of the Project

Item	Source/Methods	Results (as of February 14, 2008)
		<p>laboratory, and the J/E on QA/QC, in order to facilitate the relevant activities. Since the Working Group first met in May 2006, twenty-eight meetings have been held so far.</p> <p>2. <u>Activity 2-2</u> (This Activity item relates to capacity development of CENICA on calibration of air quality equipment): Under this Activity item, three major sub-activities are identified in the latest PO: (i) preparation of laboratory; (ii) furnishing of the laboratory; and (iii) planning and implementation of capacity development of the staff. The second sub-activity (i.e. Activity 2-2-2) is behind the schedule due to delay of administrative procedures.</p> <p>3. <u>Activity 2-4</u> (This Activity item consists of two different Activities: (i) development of SOPs; and (ii) acquirement of ISO 17025). The first part has been completed as planned. The second part is ongoing and is expected to be completed by the end of the Project, though some of its six sub-activities, identified in the latest PO, are behind the schedule and may not be completed by the end of the Project.</p> <p>1) <u>Sub-activity 2-4-5</u> (The item is related to implementing actual calibration using the SRP and flow meters, including the Standard Flow Meter): The calibration using the SRP and flow meters has been carried out since September 2007. The calibration using the Standard Flow Meter, however, has not been able to be conducted because it has gone out of order since the same month. Since its guarantee period has been expired, CENICA has to get it repaired at its own cost. According to CENICA, the estimate provided by the maker for diagnosis of the problem in USA is approximately US\$ 3,000, excluding the cost of shipment that had to be borne by CENICA, which is more than 40% of the cost of buying a new one. CENICA has not been able to make a decision on the matter yet.</p> <p>2) <u>Sub-activity 2-4-6</u> (The item is related to applying for MMX-EC-17025-IMMC-2006, equivalent to ISO 17025 in Mexico): Initially, application for ISO regarding four types of calibration methods were considered: (i) a method using the SRP; (ii) a method using flow meter (or roots meter) for high flow; (iii) a method using the Standard Flow Meter for medium flow; and (iv) another method using the Standard Flow Meter for low flow. CENICA has applied for ISO regarding the first two methods (i.e. (i) & (ii)); application regarding the last two methods, using the Standard Flow Meter, has been held back because of the problem of the said equipment mentioned above.</p> <p>3) <u>Sub-activity 2-4-3¹</u> (The item relates to getting approval of the SRP as the as the National Primary Standard equipment by the Secretary of Economy): This sub-activity is planned to be implemented after the acquirement of accreditation of ISO 17025 (i.e. Sub-activity 2-4-6). CENICA plans to get all the necessary documents ready in time. In fact, it has already started to prepare some. The completion of this sub-activity within the Project period, however, is uncertain because it depends on the timing of accreditation of MMX-EC-17025-IMMC-2006, equivalent to ISO 17025 in Mexico, as well as the time associated with administrative procedures within the Secretary of Economy.</p> <p>4) <u>Sub-activity 2-4-4²</u> (The item is related to getting approval of the flow meter as the National Secondary Standard equipment by the Secretary of Economy): This sub-activity is planned to be implemented after the acquirement of accreditation of ISO 17025 (i.e. Sub-activity 2-4-6). Though CENICA intends to get all the necessary documents ready in time, the completion of this sub-activity within the Project period is uncertain because it depends on the timing of accreditation of ISO 17025 as well as the time associated with the administrative procedures</p>

¹ Chronologically, this sub-activity comes after the acquirement of accreditation of ISO 17025 (i.e. Sub-activity 2-4-6).

² Chronologically, this sub-activity comes after the acquirement of accreditation of ISO 17025 (i.e. Sub-activity 2-4-6).

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Item	Source/ Methods	Results (as of February 14, 2008)
		<p>within the Secretary of Economy.</p> <p>At present, the Project plans to obtain an approval of the roots meter that had existed at CENICA prior to the beginning of the Project as the National Secondary Standard equipment. The getting an approval of the Standard Flow Meter provided by JICA had to be given up because the equipment has gone out of order in September 2007.</p>
(3)Activities under Output 3	-ditto-	<p>Overall, the Activities under Output 3 have been implemented almost as planned. It is expected that the planned Activities would be completed by the end of the Project. Major issues specific to each Activity are highlighted below</p> <ol style="list-style-type: none"> 1. <u>Activity 3-1</u> (This Activity Item relates to study of evaluation and design of the location of monitoring network using the hybrid model developed through the Project in at least two Model Cities): Completion of the study in the first Model City was delayed by 5 - 6 months, compared to the original schedule delineated in the initial PO. <ol style="list-style-type: none"> 1) Initially, this Activity item was assigned to a C/P at CENICA Tecamachalco, who was also responsible for most of the Activities under Output 1 and Output 2, needless to add his routine works. Considering the limit of technical personnel in CENICA Tecamachalco, the work was re-assigned to a C/P at CENICA Iztapalapa in May 2007, who is responsible for the Activity 3-2, which relates to the studies and capacity development on effective utilization of monitoring data through the use of models and organizing seminar/workshop. 2) Additional measurements of solar net radiation have been carried out during 2007 with a pyradiometer in order to complement the modeling input data and to validate the equipment originally destined for measurement of solar net radiation. 3) The evaluation was conducted and the tentative results were reported in February 2007. As a result of an intensive revision of the both input and output data by C/P, SEMARNAT, and in collaboration with the J/E if was agreed that the input data quality was not sufficient in order to provide output reliable data. C/P and SEMARNAT provided reliable input data set between August and December 2007. With these validated information C/P in collaboration with J/E will update the model results and will present by March 2008. <p>Consequently, the start of the Activity 3-1 in the second Model City (i.e. Puebla) was postponed to the middle of February 2008. Nonetheless, the Activity is likely to be completed by the end of the Project mainly because (i) sufficient volume of reliable data is available in Puebla; and (ii) local staff trained through the Project is available.</p> 2. <u>Activity 3-3 & 3.4</u> (These Activity items are related to the studies on VOC and PM 2.5 respectively in at least two Model Cities : Field measurements have been conducted in the first Model City (i.e. Salamanca). Preparation of the final report is at the final stage. The study in the second Model City (i.e. Tula) is expected to be completed by the end of the Project. <p>Activities in the first Model City took longer period than planned for the following reasons.</p> <ol style="list-style-type: none"> 1) The filed study in the first Model City was extended both spatially and seasonally, compared to the initial study plans. Originally, a very short field campaign was envisaged but it was extended since a wider study on VOCs, PM2.5 was implemented by CENICA as a Presidential Goal by INE. Measurements considered in the Project were implemented as scheduled with support of the J/Es on VOC and PM 2.5. 2) Two staff members left CENICA for personal reasons in 2007: Chief responsible for the VOC studies and Chief responsible for Gravimetric Analysis in September and December, respectively. Their absence at the final stage of the studies in the first Model City have adversely



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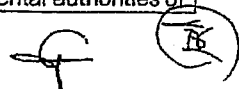
Item	Source/ Methods	Results (as of February 14, 2008)												
		<p>affected temporarily the progress of some activities, though the negative impacts have been mitigated through efforts of the staff of CENICA and supports of the J/E team as well as collaboration of the technical engineers contracted with the funds of the collaborative project between INE, UAM, and the Institute of Ecology in Guanajuato. It is noted that analysis on VOC and PM2.5 was not impacted by the temporary loss of staff since already trained technical engineers took over the activities.</p> <p>3) For information, recruitment of their successors is in process as shown in the table below.</p> <p align="center">Table C: Recruitment of the staff in charge of VOC and PM 2.5</p> <table border="1"> <thead> <tr> <th data-bbox="592 580 740 651">Position</th> <th data-bbox="740 580 879 651">Responsible Activity of PDM</th> <th data-bbox="879 580 1024 651">Time of turn over of the predecessor</th> <th data-bbox="1024 580 1326 651">Recruitment of the successor</th> </tr> </thead> <tbody> <tr> <td data-bbox="592 651 740 689">Chief, VOC</td> <td data-bbox="740 651 879 689">Activity 3-3</td> <td data-bbox="879 651 1024 689">Sep. 2007</td> <td data-bbox="1024 651 1326 696">Final interview is to be conducted in Feb. 2008</td> </tr> <tr> <td data-bbox="592 696 740 775">Chief, Gravimetric Analysis</td> <td data-bbox="740 696 879 775">Activity 3-4</td> <td data-bbox="879 696 1024 775">Dec. 2007</td> <td data-bbox="1024 696 1326 748">Process will begin in March and it is expected to conclude by May.</td> </tr> </tbody> </table> <p>Most of the equipment provided by JICA for the Activity 3-3 has contributed to smooth implementation of the planned activities. The following two items, however, have not gone into fully operation yet:</p> <p>1) <u>GC-MS</u>, delivered in March 2007, has not been installed yet due to various problems. The study on VOCs in the first Model City included the analysis of 57 species using the existing GC-FID. The new equipment has not been utilized for analysis related to the study on VOCs in the first Model City. Most of the problems have been solved already. It is expected that the equipment is expected to become ready for use in the Project in March 2008. The major problems encountered are as follows:</p> <ul style="list-style-type: none"> ➢ The ceiling of the laboratory of CENICA Iztapalapa, where the GC-MS is to be installed, had a complex filtration problem. It was fixed in September 2007. ➢ Installation of a piping network for liquid nitrogen provision, including perforation of wall for the nitrogen installation, was delayed until August-October 2007 mainly due to delay of appropriation of the budget from the Federal Government in the same year. ➢ Obtaining of a license for using the GC-MS from the National Commission of Nuclear Security and Safeguards was found necessary. CENICA, with a staff member (i.e. then Chief of Department of VOC studies) trained on the subject, submitted the necessary documents to the Commission in August 2007. The staff member, however, left the job in the following month for a personal reason so that CENICA had to send another staff member for the training. Due to delay of appropriation of the budget in 2007, the training was postponed till the end of the year. CENICA hopes that the license will be obtained by May, provided that there are no more complications. <p>2) <u>BTX meter</u>, delivered in March 2007, was installed in June 2007 due to the availability of the distributor. After the field measurements of VOCs in August 2007, the equipment went out of order. Since the distributor did not have the stock of the spare parts, CENICA had to request the manufacturer in Holland to deliver one. It was not until the beginning of February 2008 when the spare part was delivered to CENICA. It is expected to become operational again in March at the latest. It is important to note that this equipment was considered only complementary to VOCs measurements at the Model Cities, therefore, there was no direct impact on the results.</p> <p>While most of the equipment provided by JICA for the Activity 3-4 has contributed smooth implementation of the Project, there is a problem related</p>	Position	Responsible Activity of PDM	Time of turn over of the predecessor	Recruitment of the successor	Chief, VOC	Activity 3-3	Sep. 2007	Final interview is to be conducted in Feb. 2008	Chief, Gravimetric Analysis	Activity 3-4	Dec. 2007	Process will begin in March and it is expected to conclude by May.
Position	Responsible Activity of PDM	Time of turn over of the predecessor	Recruitment of the successor											
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Annex 4: Implementation Process of the Project

Item	Source/Methods	Results (as of February 14, 2008)
		<p>to one item of the equipment</p> <ol style="list-style-type: none"> 1) <u>The Low Volume Air Sampler</u>, delivered in March 2007, has gone out of order after field measurement in August and some additional measurements during September 2007. Due to the delay of the vendor to fix this instrument, it was not possible to use it in the field measurements of PM 2.5 in November. The equipment was fixed by the beginning of January and will be used in the study on Second Model City. 2) <u>PM1 Analyzer (with FDMS)</u>, delivered in March 2007, although in operation for most of the period, has not been able to generate reliable data yet. According to the C/P of CENICA, the problem is the lack of the experience of the distributor, who has showed no expertise neither during the installation of the equipment nor during diagnosis of the failure. Recently, CENICA requested the Monitoring Network of Mexico City for a second opinion on the matter. The problem of this equipment, however, has not affected directly the progress of the activities since measurements of the PM1 fraction were envisioned solely as a complement of the PM2.5 studies, with a high potential to generate important fundaments for a possible revision on mid-term of the national regulation on suspended particle concentrations.
(4)Activities under Output 4		<p><u>Overall:</u> The Activities under Output 4 been implemented almost as scheduled. They are expected to be completed by the end of the Project.</p> <ol style="list-style-type: none"> 1. <u>Activity 4-1:</u> Analytical tools for data management for local networks, which were not originally envisaged, have been developed for the analyses of (i) ambient air quality data, (ii) meteorological data, and (iii) meteorological data and ambient air quality data,
(4)Activities under Output 5, 6		<p><u>Overall:</u> The Activities under Output 5-6 have been implemented almost as scheduled. It is expected that the planned Activities would be completed by the end of the Project.</p>
2 Project Management		
(1)Implementation System	Questionnaire, interview with C/P, J/E,	<p>The President of INE is the Project Director and the Director General of CENICA is the Project Manager. Director of CENICA Tecamachalco is responsible for Outputs 1, (i.e. capacity development on collection of reliable data), Output 2 (i.e. improvement air quality monitoring equipment calibration system), Output 4 (i.e. capacity development of management and analysis of air quality monitoring data), Output 5 (i.e. increase of accessibility of general public and policy makers to information about air quality), and Output 6 (i.e. preparation of the National Air Monitoring Program for Criteria Air Pollutants), while Director of CENICA Iztapalapa is responsible for Output 3 (i.e. studies that compliment existing air quality monitoring). Implementation system of the Project is considered appropriate, assigning adequate personnel for management of the Project.</p>
(2)Decision making & Monitoring process	Review of project reports, materials related to PO, PDM, questionnaire & interview with C/P, J/E	<ol style="list-style-type: none"> 1. <u>Decision making and monitoring system:</u> The primary decision making body for the Project is the Joint Coordination Committee, chaired by the President of INE, SEMARNAT, who is also the Project Director. The JCC has met four times (i.e. November 2005, June 2006, January and July in 2007), so far. In June 2006 and July 2007, an annual Plan of Operations was discussed and the results of the prior year were reviewed. The Project has prepared a semi-annual progress report in English and has submitted it to both JICA and CENICA. Internal monitoring system has not been established. The issues arisen from the day-to-day implementation of the activities are discussed between the Project Manager and the Chief Advisor as needed. 2. <u>Project management through the PDM and the PO:</u> <ul style="list-style-type: none"> • The PDM is found problematic. Some of the Objectively Verifiable Indicators for the Outputs, the Project Purpose, and the Overall Goal are not well defined. Some of them lack objectively verifiable targets. Description of some of the Activities is found to be vague, too. In addition, some of the Indicators of the Outputs are not logically linked to their Activities. In some cases, the J/E team and/or their C/Ps had to conduct additional activities in order to satisfy the Indicators. Some of the "Means of Verification" require activities by either J/E or their C/P/A but there activities are not included in the PDM (or PO).

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Item	Source/Methods	Results (as of February 14, 2008)
		<ul style="list-style-type: none"> • Moreover, as for the PO, necessary information such as "expected outcome(s)", "responsible person (Mexican side)", "implementers (Mexican side)", "required inputs (from both sides)", etc. is not specified for each Activity and/or sub-Activity. A detailed PO for the whole Project Period has not been prepared, either. • In the monitoring process, these issues have not been addressed. This has made it difficult for all those concerned to have common understanding of the overall implementation process and progress of the Project based on the PO as well as expected achievement level of the Outputs and the Project Purpose of the PDM. • As one of the C/Ps interviewed by the Evaluation Team mentioned, there should be no room for "interpretation" in the PDM: it should be self-explanatory.
(3) Communication	Review of project reports, questionnaire & interview with C/P, J/E	<p>Some of the C/Ps and the J/E team interviewed by the Evaluation Team think that the communication within the Project has been sufficient in order to implement the Activities of the Project. Others feel it needs some improvement. The issues pointed out by them are as follows:</p> <ol style="list-style-type: none"> 1. Within each technical field (or Output), communication between the Japanese Expert team and their Mexican technical C/Ps as well as among the Mexican technical C/Ps is generally sufficient for day-to-day implementation of the Project. For example, a Working Group established for some of the activities under Output 2 meets regularly in order to discuss the progress, issues, and actions to be taken. 2. Communication across the technical fields (or Outputs) is not as smooth as the one within the technical fields (or Outputs). There seems little linkage and integration across the technical fields in the course of the implementation of the Activities. The physical distance between CENICA Tecamachalco (in charge of Output 1, 2, 4, 5, & 6) and CENICA Iztapalapa (in charge of Output 3), coupled with limited human resource and the workload of the staff, is considered to be one of the reasons. It is noted that discussion on unifying these two offices into a new building in the future to strengthen the institutional capacity of CENICA as well as work efficiency has been ongoing. In the meantime, a semi-annual or an annual strategic meeting of the Project, consisting of all the C/Ps and the J/E team, has been suggested by some of the C/Ps to promote common understanding as well as integration.
3. Coordination with relevant organizations	ditto	<p>The Project has coordinated with various Federal, State and Municipal local environmental authorities, civil associations, private enterprises and universities. Some of the examples are shown below.</p> <ol style="list-style-type: none"> 1. <u>SEMARNAT</u>: The Project has coordinated with SEMARNAT for information exchange, updating of the inventory data for modeling under Output 3, etc. 2. <u>State and local environmental authorities of the Model Cities</u>: The Project has coordinated with the City of Salamanca and the State of Guanajuato in carrying out various activities, including evaluation of the locations of monitoring stations, using the hybrid model developed through the Project (i.e. Activity 1-4), promotion of improvement of QA/QC procedures (i.e. Activity 1-4), study on VOCs (i.e. Activity 3-3), study on PM2.5 (i.e. Activity 3-4), promotion of computer displays, etc. 3. <u>State and local environmental authorities concerning air quality monitoring networks</u>: The Project has coordinated with them for participation of the relevant personnel to training/workshops organized by the Project, and visit of CENICA staff and/or J/Es. 4. <u>CENAM</u>: An agreement between INE and CENAM was signed on September 3, 2007, regarding delegation of authority of the National Primary Standard of Ozone from CENAM to INE as well as technical support of CENAM to be provided to INE in this matter. 5. <u>Organizations that have participated in preparation of NOM (There are overlaps with the organizations listed in the other part)</u>: Cámara Minera de México; Centro Nacional de Metrología ; CMB control, S. A. de C. V.; Comisión Ambiental Metropolitana del Valle de México; Comisión Federal de Electricidad (Gerencia de Protección Ambiental); Environmental authorities of



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Ítem	Source/Methods	Results (as of February 14, 2008)																																																												
		<p>the States of Guanajuato, Jalisco, México, Nuevo León, and Puebla; Gobierno del Distrito Federal; Industrial Minera México, S. A. de C. V.; Instituto de Investigaciones Eléctricas; MET-MEX Peñoles S.A. DE C.V., Periferios y Sistemas, S.A. DE C.V.; SEMARNAT (Dirección General del Centro Nacional de Investigación y Capacitación Ambiental del Instituto Nacional de Ecología; Dirección General de Investigación sobre la Contaminación Urbana y Regional del Instituto Nacional de Ecología; Dirección General de Gestión de la Calidad del Aire y Registro de Emisiones y Transferencia de Contaminantes, de la Subsecretaría de Gestión para la Protección Ambiental, Subprocuraduría de Inspección Industrial de la Procuraduría Federal de Protección al Ambiente); Universidad Nacional Autónoma de México</p> <p>6. <u>Others:</u> Name of other major organizations with which the Project has coordinated for smooth implementation of the Project is listed in the table below:</p> <p align="center">Table D: List of other organizations with which the Project has coordinated for implementation of the Project</p> <table border="1"> <thead> <tr> <th data-bbox="533 779 580 819"></th> <th data-bbox="580 779 847 819">Organization</th> <th data-bbox="847 779 1155 819">Type of Coordination/collaboration</th> <th data-bbox="1155 779 1289 819">Remarks</th> </tr> </thead> <tbody> <tr> <td data-bbox="533 819 580 853">1)</td> <td data-bbox="580 819 847 853">IMP</td> <td data-bbox="847 819 1155 853">Information exchange</td> <td data-bbox="1155 819 1289 853"></td> </tr> <tr> <td data-bbox="533 853 580 927">2)</td> <td data-bbox="580 853 847 927">PEMEX</td> <td data-bbox="847 853 1155 927">Information exchange, provision of emission data of Salamanca</td> <td data-bbox="1155 853 1289 927"></td> </tr> <tr> <td data-bbox="533 927 580 976">3)</td> <td data-bbox="580 927 847 976">CFE (Federal Commission of Electricity)</td> <td data-bbox="847 927 1155 976">Provision of emission data of Salamanca</td> <td data-bbox="1155 927 1289 976"></td> </tr> <tr> <td data-bbox="533 976 580 1025">4)</td> <td data-bbox="580 976 847 1025">CNA (National Commission of Water)</td> <td data-bbox="847 976 1155 1025">Workshop support</td> <td data-bbox="1155 976 1289 1025"></td> </tr> <tr> <td data-bbox="533 1025 580 1122">5)</td> <td data-bbox="580 1025 847 1122">UNAM (National Autonomous University of Mexico)</td> <td data-bbox="847 1025 1155 1122">Complementary study on meteorological model (Research on PM 2.5 and VOC under Output 3)</td> <td data-bbox="1155 1025 1289 1122"></td> </tr> <tr> <td data-bbox="533 1122 580 1317">6)</td> <td data-bbox="580 1122 847 1317">Universidad Autónoma de Ciudad del Carmen (Autonomous University of Del Carmen)</td> <td data-bbox="847 1122 1155 1317">Complementary study on oxygenated VOCs (carbonyls) (research on PM2.5 and VOCs under output 3)</td> <td data-bbox="1155 1122 1289 1317">Sampling done by CENICA Iztlapalapa, chemical analyses are being carried out</td> </tr> <tr> <td data-bbox="533 1317 580 1435">7)</td> <td data-bbox="580 1317 847 1435">University of Guanajuato</td> <td data-bbox="847 1317 1155 1435">Hosted one of the seminars on Pm2.5 and VOCs Technology transfer on STP-Puff and participation in the meteorological model</td> <td data-bbox="1155 1317 1289 1435"></td> </tr> <tr> <td data-bbox="533 1435 580 1485">8)</td> <td data-bbox="580 1435 847 1485">Technological University of León</td> <td data-bbox="847 1435 1155 1485">Information exchange</td> <td data-bbox="1155 1435 1289 1485"></td> </tr> <tr> <td data-bbox="533 1485 580 1603">9)</td> <td data-bbox="580 1485 847 1603">DGCA (Direction General of Air Quality) and RETC (Registration of Emission and Transfer of Contaminants)</td> <td data-bbox="847 1485 1155 1603">Provision of information. 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	Organization	Type of Coordination/collaboration	Remarks																																																											
1)	IMP	Information exchange																																																												
2)	PEMEX	Information exchange, provision of emission data of Salamanca																																																												
3)	CFE (Federal Commission of Electricity)	Provision of emission data of Salamanca																																																												
4)	CNA (National Commission of Water)	Workshop support																																																												
5)	UNAM (National Autonomous University of Mexico)	Complementary study on meteorological model (Research on PM 2.5 and VOC under Output 3)																																																												
6)	Universidad Autónoma de Ciudad del Carmen (Autonomous University of Del Carmen)	Complementary study on oxygenated VOCs (carbonyls) (research on PM2.5 and VOCs under output 3)	Sampling done by CENICA Iztlapalapa, chemical analyses are being carried out																																																											
7)	University of Guanajuato	Hosted one of the seminars on Pm2.5 and VOCs Technology transfer on STP-Puff and participation in the meteorological model																																																												
8)	Technological University of León	Information exchange																																																												
9)	DGCA (Direction General of Air Quality) and RETC (Registration of Emission and Transfer of Contaminants)	Provision of information. Member of the modeling group.																																																												
10)	Patronato para el Monitoreo de la Calidad del Aire de Salamanca	Provision of monitoring data. Support in the sampling PM2.5 at Cruz Roja.	Civil Association																																																											
11)	Patronato para el Monitoreo de la Calidad del Aire de Irapuato	Information exchange	Civil Association																																																											
12)	Industrial Minera México	Workshop support.																																																												
13)	Universidad Autónoma Metropolitana Iztlapalapa	Collaboration in the study for H2S COPs, PM2.5, and COVs in Salamanca																																																												
14)	Instituto de Ecología de Guanajuato	Collaboration in the study for H2S COPs, PM2.5, and COVs in Salamanca																																																												
4. Other	-ditto-	1. Other facilitating factors																																																												

Annex 4: Implementation Process of the Project

Item	Source/ Methods	Results (as of February 14, 2008)
factors that have affected the implementation process		<ul style="list-style-type: none"> - Acceptance of the Project activities by the Model Cities - The Project Manager (i.e. Director General of CENICA) has submitted tentative results of simulation of Salamanca to the Minister of SEMARNAT, which has helped SEMARNAT to understand the importance of counter measures for air pollution control. <p>2. Other hampering factors</p> <ul style="list-style-type: none"> - The C/Ps are overloaded with the assignment of the Project activities on top of their routine and other engagement. - Three temporary technical engineers, who assistances are essential for the activities related to the calibration lab in CENICA Tecamachalco, feel uneasy about their employment status. It has become difficult for them to keep their spirit high because their contracts for this year have not been finalized yet.

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Annex 5: Evaluation by Five Criteria

Abbreviation: C/P-counterpart personnel J/E-Japanese expert

1. RELEVANCE:

Item	Source/ methods	Evaluation (as of February 14, 2008)
1.1 Necessity		
(1) Relevance with the needs of Mexico	Review of the relevant document	The Overall Goal ("Capacity of the Mexican society to manage air quality is strengthened") is considered to be relevant with the needs of Mexico. "Mexico faces problems of quality of the air in its main metropolitan zones, the Valley of Mexico being the most well-known and documented case. The quality of the air is a permanent preoccupation, since the most well-known signs of the degradation in its quality, such as the smaller visibility and the increase in the annoyances and diseases associated with the contamination, are already daily in the main cities of the country" according to the Chapter XI of web-version of "Report of the Situation of the Environment in Mexico 2004" (SEMARNAT). The needs of air quality management are, therefore, high.
(2) Relevance with the needs of the implementing organization and target groups	Review of the relevant document questionnaire and/or interview with C/P, and target groups	The Project Purpose ("The Mexican society recognizes importance of air quality monitoring and capacity of the local governments to provide and utilize reliable air quality information for policy planning and evaluation is strengthened") is still relevant with needs of the CENICA and local governments as shown below. > The internal regulation of the SEMARNAT defines responsibilities of CENICA in the field of air quality monitoring as to 1) develop technical standards for designing air quality monitoring systems, 2) promote and supervise establishment of the air quality monitoring systems by the local governments, 3) develop QA/QC methods for measurement and determination of air pollutants, 4) conduct studies on air pollution and evaluation of exposure of individuals, 5) develop a national air quality information system, and 6) disseminate scientific information about air pollutant. > Article 112 of the General Law of Ecological Balance and Environmental Protection requires local governments to establish and to operate, within the technical support of SEMARNAT, air quality monitoring system.
1.2 Priority		
(1) Relevance with development policies of Mexico	Review of national development plan	The Overall Goal is consistent with development plan of Mexico. > The National Program on Environment and Natural Resources, which is a sector program of National Development Plan, stresses the need for local governments to monitor air quality and air pollutant emissions periodically.
(2) Relevance with ODA policies of Japan	Review of ODA policy documents	The Overall Goal and the Project Purpose are still consistent with ODA policies of Japan. > According to the "Official Development Assistance Charter", published by the Government of Japan, "consideration to global warming and environmental problems" is one of the priority issues. > According to the Japan's Medium-Term Policy of Official Development Assistance (ODA), 2005, the Government of Japan has been setting the environmental sector as one of the most important sector of international cooperation. > According to the latest "JICA Country Programme" for Mexico (2007), issues on global environment are identified among the priority areas.
1.3 Adequacy as means		
(1) Technological Advantage of Japan	Questionnaire and/or interview with C/P	Judging from the C/P's assessment on Japanese Expert dispatched as well as increase in the technical capacity of the C/P and target beneficiaries, there are technological advantages of Japan in the field of air quality monitoring.

Annex 5: Evaluation by Five Criteria

2. EFFECTIVENESS :

Items	Source/ methods	Evaluation (as of February 14, 2008)
2.1 Achievement level of the Project Purpose	Review of Accomplishment Grid, (Annex 3) & project reports, questionnaire and/or interview with C/P, J/E	Three out of four Objectively Verifiable Indicators ¹ of the Project Purpose have been already achieved as shown in the Annex 3. The remaining Indicator is expected to be satisfied by the end of the Project. The Project Purpose has been mostly achieved and is expected to be fully achieved by the end of the Project.
2.2 Contribution of the Outputs to the Project Purpose	-ditto-	The Project Purpose consists of two parts: (i) recognition of importance of air quality monitoring; and (ii) capacity development of local governments in provision and utilization of air quality information. Improvement of accessibility of the general public and policy makers towards information about air quality (i.e. Output 5) contributes to the first part of the Project Purpose. Capacity development in collection of reliable air quality data (i.e. Output 1), improvement of the existing air quality monitoring equipment calibration system (i.e. Output 2), implementation of the studies that complement existing air quality monitoring (i.e. Output 3), as well as capacity development in management and analysis of air quality (i.e. Output 4) are considered to contribute to the achievement of the second part of the Project Purpose.
2.3 Important Assumptions for the Project Purpose	-ditto-	Three Important Assumptions for the Project Purpose are identified in the current PDM: <ul style="list-style-type: none"> > <u>The first Assumption</u> ("SINAICA system does not break down for a long time"): It has been satisfied. > <u>The second Assumption</u> ("CENICA staff who can be trainers of capacity building for the local governments do not leave the institution"): So far, the assumption has been met. As shown in the Indicators 1-2 and 1-4, at least two staff members of CENICA, including the technical engineers who work on contract basis, have become able to lecture on 1) overview of air quality monitoring, 2) installation, operation, maintenance and calibration of monitoring equipments, and/or 3) QA/QC. In addition, two staff members are expected to become able to give lectures on monitoring network design by the end of the Project. Those staff members have not left CENICA. As for the remaining period of the Project, permanent staff of CENICA is likely to remain in the institutions. It is not certain if those technical engineers would stay with CENICA because their motivation is low at the moment due to delay of finalizing and signing of their contracts for 2008. > <u>The third Assumption</u> ("Proposal for new staff positions in CENICA is approved by Ministry of Finance"): According to Director General of CENICA, the budget for additional six permanent posts for CENICA Tecamachalco (i.e. one Sub-director, two Chiefs, and three technical assistants) was approved by the Lower Chamber in December 2007. The budget has been allocated to INE already. An official request for disbursing the concerned budget has been sent to the Secretary of Finance. As soon as approval of is obtained, CENICA would initiate the recruitment process. It is anticipated that CENICA would be able to fill up the posts by May -June 2008, if there are no complications.
2.4 Other promoting /hampering factors	-ditto-	Specific factors have not been identified.

¹ Note: The first two Indicators (Indicator 1 & 2) of the Project Purpose are defined well and were objectively verifiable. The other two Indicators (Indicators 3 & 4) are not. Improvement on each subject was confirmed, but it was found difficult to assess the exact level of achievement. Description of the Indicator 3 ("Awareness of those who are responsible for environmental programs of the State governments towards importance of air quality monitoring is increased") is general and vague. The criteria to assess the increase of awareness are not identified. The expected degree of the awareness is not specified. How many State governments or which State governments are targeted are not indicated. And who are "(T)hose who are responsible for environmental programs of the State Governments"? In addition, the benchmark was not available. The other one begins with "(a)ccess counts per month . . ." without specifying the expected degree. In addition, "access counts per month" is not specific enough. It could be maximum, minimum, or average annual monthly visits.

Annex 5: Evaluation by Five Criteria

3. EFFICIENCY:

Items	Source/Methods	Evaluation (as of February 14, 2008)
3.1 Production level of the Outputs	Review of Accomplishment grid (Annex 3), project reports, questionnaire & interview with CIP & JIE	<p>Overall: The production level of the Outputs of the Project is mostly as planned. All of the Outputs are likely to be produced by the end of the Project</p> <p>➤ Output 1: Production level of Output 1 is steady, judging from the achievement level of its Indicators. The Output is expected to be produced by the end of the Project.</p> <ul style="list-style-type: none"> • 1-1: <u>Fully achieved</u>. Six kinds of the existing standard manuals of CENICA had been revised by May 2007. • 1-2: <u>Mostly achieved</u>. At least two staff members of CENICA have become able to lecture on four of the five topics specified in the Indicator 1-2 already. With regard to the remaining topic (i.e. monitoring network design), it is expected that two staff members would become able to give lectures by the end of the Project. <u>It is expected to be fully achieved by the end of the Project.</u> • 1-3: <u>Fully achieved</u>. Two staff members of CENICA are considered to have acquired steps to conduct audit on air quality monitoring stations already. • 1-4: <u>Achievement is half way through</u>. Evaluation of the monitoring network was conducted in the first Model City and the final report would be ready in March 2008. Evaluation in the second Model City is at the planning stage. <u>It is expected to be fully achieved by the end of the Project.</u> • 1-5: <u>Achievement is half way through</u>. QA/QC procedures were judged to have been improved in the first Model City. A technical audit on the subject for the second Model City is at the planning stage. <u>It is expected to be fully achieved by the end of the Project.</u> • 1-6: <u>Fully achieved</u>. At least one staff form 80% of the local network that existed in January 2007, participated in the workshop organized by CENICA already. • 1-7: <u>Mostly achieved</u>. Necessary actions to implement the standard air quality monitoring have been identified in 60 % of the networks that existed in January 2007 through the reports submitted to CENICA. In addition, the reports covering 28 % more networks are under preparation, which would be submitted to CENICA by the end of the Project. As the target is 80%, <u>the Indicator is expected to be fully achieved by the end of the Project.</u> (In fact, higher-than-expected achievement is envisaged). <p>➤ Output 2: Production level of the Output 2 is steady, judging from the achievement level of its Indicators. The Output is expected to be produced by the end of the Project</p> <ul style="list-style-type: none"> • 2-1: <u>Fully achieved</u>. The Master Plan for the reconstruction of the existing calibration laboratory was prepared and authorized in December 2006. • 2-2: <u>Fully achieved</u>. At least two CENICA staff members have become able to lecture on calibration of monitoring equipment already. • 2-3: <u>Fully achieved</u>. At least one staff member from 96% of the networks have acquired calibration methods of air quality monitoring methods. (In fact, the achievement level is already higher than expected as the target is 80%). • 2-4: <u>Mostly achieved</u>. With necessary 48 SOPs prepared, CENICA has sent for an application to Mexican Entity of Accreditation (EMA) for accreditation of MMX-EC-17025-IMMC-2006, equivalent to ISO 17025 in Mexico, for the methods using the SRP and the roots meter, a kind of flow meter. At this moment, CENICA is awaiting the information from

Annex 5: Evaluation by Five Criteria

Items	Source/Methods	Evaluation (as of February 14, 2008)
		<p>EMA on the timing of the visit of the evaluators. Whether the accreditation is acquired by May 2008, which is a target month in the Indicator, is uncertain because most of the remaining steps are beyond the control of the Project. CENICA, however, hopes that the accreditation would be acquired by May 2008; by the end of the Project at the latest.</p> <p>➤ Output 3: Production level of the Output 3 is steady, judging from the achievement level of its Indicators. The Output is expected to be produced by the end of the Project</p> <ul style="list-style-type: none"> • 3-1: <u>Achievement is half way through</u>. (See 1-4) • 3-2: <u>Fully achieved</u>: A group of experts on the use of dispersion, meteorological and receptor models has been formed in CENICA • 3-3 & 3-4: <u>Achievement is half way through (as planned)</u>. The final reports on the studies of PM 2.5 and VOCs in the first Model City are under preparation: they would be ready by March 2008. The studies in the second Model City is at the planning stage. The relevant activities are planned to be completed by the end of the Project. Scientific information (i.e. the final reports) is expected to be submitted to the relevant policy makers by the end of the Project. <p>➤ Output 4: The Output 4 has been produced already, judging from the achievement level of the Indicators.</p> <ul style="list-style-type: none"> • 4-1: <u>Fully achieved</u>. The existing standard manual on air quality monitoring data management and management data analyzing tool were prepared in April 2007. • 4-2: <u>Fully achieved</u>. Two permanent staff members of INE, including CENICA, have become able to lecture on air quality management. • 4-3: <u>Fully achieved</u>. The reports, including review of existing air quality management measures, which cover two selected cities among others, have been prepared by their respective state governments. • 4-4: <u>Fully achieved</u>. One staff of the 88.5 % of the existing local networks (25 as of January 2007) participated in the capacity development program regarding data management and analysis in July 2007. (In fact, the achievement level is already higher than expected as the target is 80%). <p>➤ Output 5: The production level of the Output 5 is steady, judging from the achievement level of its Indicators. The Output is expected to be produced by the end of the Project.</p> <ul style="list-style-type: none"> • 5-1: <u>Fully achieved</u>. The ratio of data transmission to SINAICA in 2007 has increased by 78%, comparing to the one in 2005. • 5-2: <u>Fully achieved</u>. Since the beginning of the Project, seven local networks have become connected to SINAICA • 5-3: <u>Achievement is half way through</u>. Computer displays have been installed in one Model City already • 5-4: <u>Not started yet (as planned)</u>. An international seminar on the results of the whole Project is planned to be organized in September 2008, to which the persons responsible for environmental programs of the State governments will be invited among others. <p>➤ Output 6: The production level of the Output 6 is almost as planned, judging from the achievement level of its Indicators. The Output is expected to be fully produced by the end of the Project.</p> <ul style="list-style-type: none"> • 6-1: <u>Partially achieved</u>. The basic outline has been developed already. The final draft is expected to be ready in June 2008 for internal consultation within INE.
3.2 Important	Interview	➤ The First Assumption ("Model cities selected by the committee agree to

Annex 5: Evaluation by Five Criteria

Items	Source/Methods	Evaluation (as of February 14, 2008)
Assumptions for the Outputs	with C/P & J/E	<p>participate in the Project): Though what committee this assumption refers to is not clear, the Model Cities, selected through consultation between CENICA and the J/E team, have agreed to participate in the Project so that this assumption is considered to have been met.</p> <p>➤ The Second Assumption ("Those who have acquired skills through the trainings under the Project remain engaged in air quality")²: As for CENICA, five C/Ps (one Sub-director, two Chiefs, one technical engineer, and one technical assistant), who were permanent employees, have left the office since the beginning of the Project. Of these, the sub-director resigned in December 2006 on reaching mandatory retirement age. The other four have left CENICA for personal reasons. Regarding the staff concerning the local networks, the Evaluation Team has not been able to obtain the precise information. Whether those who left CENICA and local governments remain engaged in the work related to air quality management or not is unknown, it being the personal information.</p>
3.3 Appropriateness of the Inputs		
(1) Mexican side		
(a) Land and facility	Review of Accomplishment grid (Annex 3), project reports, questionnaire & Interview with C/P & J/E	<p>➤ <u>Timing:</u></p> <ul style="list-style-type: none"> • Land and facilities: Land and facilities necessary for the Project activities have been provided in time. • Project Office: It was in the Office of CENICA Tecamachalco located in the premise of PROFEPA in Mexico City in time. <p>➤ <u>Quantity:</u></p> <ul style="list-style-type: none"> • Project Office: Two rooms have been made available for the offices of the Chief Advisor and the J/E team. In addition, a meeting room that lied next to the office of the J/E team is available. Office space is considered sufficient. <p>➤ <u>Quality:</u></p> <ul style="list-style-type: none"> • Project Office: An air conditioner has been provided for each room. The broad-band Internet connection has been also made available. Though power failure occurs sometimes, it has hardly affected the production of the Outputs.
(b) Assignment of counterpart personnel	ditto	<p>➤ <u>Timing, Duration & Quantity:</u></p> <ul style="list-style-type: none"> • Most of the current C/Ps have been assigned since the commencement of the Project. There have been problems related to timing, duration, and quantity, however. • In the beginning of the Project, only one technical engineer and one technical assistant, who were permanent staff members, were available for assistance of laboratory work in CENICA Tecamachalco. The number was not sufficient, considering the scope and the volume of the envisaged activities in the laboratory. Allocation of three temporary technical engineers was delayed until April 2006 due to administrative reasons. Because the first delivery of the equipment was in March 2006, one can argue that the assistants in the fields of equipment operation were allocated in time. It is also noted that, despite of the difficulty in increasing the staff members of Federal Government under the current political circumstance, CENICA made a good effort to secure the budget for three temporary posts for technical engineers. • Five permanent staff members (i.e. one Sub-director, two Chiefs, one technical engineer, and one technical assistant) have left CENICA since the beginning of the Project as mentioned in 3.2 above. The recruitment of the successors, carried out in accordance with the regulation of the Federal Government, usually takes more than a few months. The post for the Sub-director has been filled up so far. The recruitment of two Chiefs is in the

² Note: The description of the second Important Assumption is vague. It is not clear whether "(t)hose who have acquired skills through the trainings under the Project" refers to (i) staff of CENICA, (ii) staff concerning local networks, including Model Cities, or (iii) staff of both CENICA and local networks. The Final Evaluation Team takes (iii) in order to be on the safe side.

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Items	Source/Methods	Evaluation (as of February 14, 2008)
		<p>process. For the technical engineer and the technical assistant, recruitment process has not been initiated yet.</p> <ul style="list-style-type: none"> • All of the C/Ps engage in the Project on part-time basis. They are sometimes occupied with other works in their Departments/Sub-Directions to focus on the Project activities. In addition, allocation of six permanent staff for CENICA Tecamachalco (i.e. one Sub-director, two Chiefs, and three technical assistants) has not been realized yet because of the administrative reasons. • Through the effort of the C/Ps and the support of the J/E team, the adverse effects of the above mentioned problems on the production of the Outputs have been minimized. But the problems have put additional burden to the C/Ps, who are already busy. It would have been more efficient, however, if the above mentioned problems had been addressed earlier. <p>➤ <u>Quality:</u></p> <ul style="list-style-type: none"> • Technical C/P with the relevant background, experiences, and technical level has been assigned.
(c) Running expenses for the implementation of the Project	-ditto-	<p>➤ <u>Timing:</u></p> <ul style="list-style-type: none"> • Usually, the budget is appropriated to CENICA in March-April. For the fiscal year 2007, the situation was different. The budget was approved in December 2006 but it was not allocated until July 2007 due to change of procedures associated with the change of the Administration. For the current fiscal year, the budget was approved in December 2007. It is expected to be allocated in March-April 2008. <p>➤ <u>Quantity:</u></p> <ul style="list-style-type: none"> • The amount necessary for implementation of the activities have been allocated.
(2) Japanese side		
(a) Japanese expert	Review of Accomplishment grid (Annex 3), reports, questionnaire & interview with C/P & J/E	<p>➤ <u>Timing:</u></p> <ul style="list-style-type: none"> • The J/Es have been dispatched according to the schedule in general. <p>➤ <u>Quantity & duration:</u></p> <ul style="list-style-type: none"> • Appropriate number of the J/Es, covering 10 technical fields, including a coordinator, has been dispatched. • The duration of the dispatch has been appropriate. The duration of some of the J/Es has been changed from the original plan, responding to the situation of the Project flexibly. In the case of the Expert in Air Pollution Modeling, for example, the total duration has been increased by 2.8 m/m for the following reasons among others: (i) It was found out that it would take longer time than expected to develop inventory data for modeling in the first Model City (i.e. Salamanca); and (ii) Development of analytical tool for local networks for data management has been added as a new activity. <p>➤ <u>Quality:</u></p> <ul style="list-style-type: none"> • Judging from the achievement levels of the Outputs as well as the appreciation expressed by their Mexican C/P in the results of questionnaires and interviews, the J/Es with the relevant background, experiences, and technical level have been assigned to the Project.
(b) Provision of equipment	-ditto-	<p>➤ <u>Timing:</u></p> <ul style="list-style-type: none"> • The equipment has been procured and delivered according to the schedule. <p>➤ <u>Quantity:</u></p> <ul style="list-style-type: none"> • Sufficient quantity of the equipment has been provided to implement the activities. <p>➤ <u>Items and specifications:</u></p> <ul style="list-style-type: none"> • The items and specifications of the provided equipment were appropriate for implementation of the concerned activities <p>➤ <u>Quality:</u></p> <ul style="list-style-type: none"> • Quality of the provided equipment was regarded as appropriate by

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Items	Source/Methods	Evaluation (as of February 14, 2008)
		<p>both J/E team and their Mexican C/P.</p> <p>➤ <u>Operation and Maintenance</u></p> <ul style="list-style-type: none"> • Through training provided by the Project, staff members of CENICA have become able to operate and conduct routine maintenance of the provided equipment. In the case of calibration equipment, operational and maintenance manuals have been prepared in Spanish. For most of the equipment, initial training on operation was conducted by the distributors at the time of installation and qualification, too. • In case of malfunction, some problems attributable to international procurement have been observed. First, spare parts are not always included in the provision and are not readily available in Mexico in some cases. For instance, in the case of the BTX meter, which went out of order after the second field measurement in August 2007, the distributor was run out of the spare parts. CENICA did not receive the spare parts until February 2008. One of the interviewees stressed the needs of provision of the spare parts for internationally procured equipment for the initial period. Second, some of the local distributors cannot conduct diagnosis of the causes of malfunction; needless to say repair works so that CENICA had to depend on the makers overseas to solve the problem. In the case of the Standard Flow Meter, which went out of order in September 2007 after the guarantee period was over, for example, the estimates given by the maker for the diagnosis in USA, excluding the shipping costs that should be borne by CENICA, is more than 40% of the cost of buying a new one. Special attention should be given to equipment specification at the time of the procurement that assures appropriate guarantee periods. <p>➤ <u>Utilization</u></p> <ul style="list-style-type: none"> • In general, the equipment has been utilized continuously for the Project activities with the exceptions of the followings. (See Annex 4 for details) <ul style="list-style-type: none"> (i) The Standard Flow Meter, delivered in March 2006, has not been utilized since September 2007 due to a failure. It is uncertain when the Project can utilize the equipment again because of the difficulty of fixing the problem. (ii) GC-MS, delivered in March 2007, has not been utilized yet because of the delay of installment due to various reasons. Since most of the problems have been solved already, it is expected to become operational in February 2008. (iii) The PM 1 Analyzer, delivered in March 2007, has been in operation but has failed to generate reliable data since the installment and qualification by the distributor. The equipment has been revised and is expected to be in operation as soon as the current strike at UAM, where CENICA Iztapalapa is located, is over. The C/Ps have revised data with the J/E in charge of PM 2.5 and more validation activities is envisaged before the end of the Project.
(c) Training in Japan	-dillo-	<p>➤ <u>Timing:</u></p> <ul style="list-style-type: none"> • Training in Japan was implemented as scheduled. With regard to timing, a C/P of CENICA in charge of SINAICA, who participated in the training, feels that it would have been more efficient and effective if she had been dispatched to Japan after analytical tools on the data management were prepared. <p>➤ <u>Quantity</u></p> <ul style="list-style-type: none"> • So far, six persons have been sent for training in Japan. Chief of SINAICA was the only C/P of CENICA who got trained in Japan. The others are the officials of the State environmental authorities, which oversee local air monitoring networks. One of the interviewees feels that it would have been more efficient if more C/P of CENICA, who are actually implementing the Project, had been trained in Japan.

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Items	Source/Methods	Evaluation (as of February 14, 2008)
		<p>> <u>Quality</u></p> <ul style="list-style-type: none"> The participants felt that fields, contents, and quality of the training were relevant with their needs. <p>> <u>Utilization:</u></p> <ul style="list-style-type: none"> The C/P of CENICA has utilized what she learned in Japan for the activities of the Project. The other participants, who answered the questionnaires, confirmed that they have utilized what they have learned in their activities, which would contribute to achievement of the Project Purpose, if not the Outputs (For utilization in non-project activities, see "Impacts"). One of the interviewees feels that the staff of monitoring stations, who actually implement the day-to-day operations, should have been sent in place of higher-rank officials in order to maximize the utilization of the knowledge and techniques transferred in Japan at the field level. Feedback meeting upon the return of the trainees to transmit and/ or share the acquired knowledge to others, including staff of local networks and CENICA, could have been useful and should be done in the near future to maximize the impacts of their training.
(d) Local activity budget	-ditto-	<p>> <u>Timing and Quantity:</u></p> <ul style="list-style-type: none"> Necessary amount has been disbursed without delay.
3.4 Preconditions	-ditto-	<p>> The precondition ("Financial and human resources are allocated to CENICA to implement the project after the change of the administration at the end of 2006"³) is mostly met. The budget for the year 2007 for implementation of the Project was approved in December 2006. But it was not allocated until July, which was 4-5 months later than usual.</p>
3.5 Coordination with other relevant Japanese and international projects/schemes	Review of progress reports, questionnaire and/or interview with J/E	There is no specific coordination with other Japanese and international projects.
3.6 Other promoting /hampering factors	Questionnaire and/or interview with C/P, J/E	Specific factors have not been identified.

4. IMPACT:

Items	Source/Methods	Evaluation (as of February 14, 2008)
4.1 Impact at the Overall Goal level		
(1) Likelihood of achievement	Review of Annex 3, questionnaire and/or interview with C/P, J/E	<p>Judging from the prospects of achievement of the Objectively Verifiable Indicators⁴ (Annex 3), some of the impacts at the Overall-Goal level have already become visible.</p> <p>> In the State of Guanajuato, for example, the programs of improvement of air quality will be introduced in two cities (Salamanca and Leon) in 2008, in which the research in the field of health is included as a specific action. In the State of Jalisco, various studies on these themes will be carried out already through the agreement of collaboration with research institutions and universities.</p> <p>> The number of local governments that have established an air</p>

³ Note: The pre-condition has been changed at the time of the mid-term evaluation into the current one. It should be noted, however, that the pre-condition is the condition that has to be met prior to the beginning of the Project. The current condition, therefore, cannot be a pre-condition by definition: it should have been set as an "Important Assumption" for the Outputs.

⁴ Note: As for the Indicators of the Overall Goal, the problems similar to the ones for the Project Purpose and the Outputs prevail. They are not clear enough. Indicators 1-4 start with "(t)he number of . . ." without specifying the numerical target. The fifth and the last indicator states "(b)udgets . . . are increased" without specifying the target number of local governments as well as the expected degree of increase. In addition, the term "local governments", which is found in every indicator, is not defined well. They could be State Governments, Municipal Governments, or both.

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Items	Source/Methods	Evaluation (as of February 14, 2008)
		<p>pollution contingency plan has been increased. In fact, some of the local government have already established the plans or are in the process of planning ones. The State of Puebla, for example, is working on the establishment of the criteria and indicators to generate a plan of atmospheric contingencies in the State, which would be sustained in its majority in the results that are obtained through the project.</p> <ul style="list-style-type: none"> ➤ The number of local governments that utilize air quality monitoring data for policy planning or evaluations has been increased. In the State of Monterrey, for example, the data generated by the monitoring network has been taken into account for the urban development plans shaped in the "Vision Regio Metropolis of Monterrey 2030", as well as in the plans for transportation and road. <p>It is likely that the Overall Goal would be achieved in 3-5 years after the end of the Project.</p>
(2) Important Assumption for the Overall Goal	-ditto-	<ul style="list-style-type: none"> ➤ <u>The first Assumption</u> ("Local governments allocate enough resources for air quality monitoring"): It is likely to be satisfied because the Article 112 of the General Law of Ecological Balance and Environmental Protection requires local governments to establish and to operate air quality monitoring system. ➤ <u>The second Assumption</u> ("The seven manuals are adopted as NOM"): As described in Annex 4, the Project has reorganized the existing seven standard manuals into six in the process of their revision. Moreover, it should be noted that, in stead of converting the standard manuals into NOMs as initially envisaged, the Project now plans to develop a NOM, which stipulates the use of the above mentioned manuals for air quality monitoring. In this way, the situation has been changed since the Assumption was set. Since the NOM will be prepared through consultative and participatory process, it is likely to be adopted. ➤ <u>The third Assumption</u>: This assumption is the same as the second Assumption for the Project Purpose. See 3.2 of this Annex. ➤ <u>The fourth Assumption</u> ("Mexico does not face severe economic downturn"): Considering the current situation of the world economy, it is difficult to make a projection for the subject.
4.2 Other impacts	Questionnaire & interview with C/P, J/E, target beneficiaries	<p>Various positive impacts have been already observed: they are anticipated, too. No serious negative impacts have been observed: they are not anticipated, either. The followings are some of the examples of the positive impacts already observed and anticipated.</p> <ul style="list-style-type: none"> ➤ <u>Positive impacts already observed</u> <ol style="list-style-type: none"> 1. Salamanca, the first Model City of the Project, has become ready for making strategy for tackling the air pollution problems in cooperation with major pollutants based on the reliable data and information, according to the statement made by the Director General of the Institute of Ecology of Guanajuato. 2. Utilizing the knowledge and technology transferred through seminars, workshops, and training organized by the Project, the State of Baja California plans to initiate the process of validation of the data collected through the monitoring network. The State of Jalisco has not only applied what they have learned in their own activities but also introduce them to other networks. 3. Utilizing advice and guidance provided by staff of CENICA and the Japanese Experts during their site visits, the State of Monterrey has also utilized the advice and guidance provided in the activities relevant to air quality monitoring, including evaluation of the appropriateness of the location of a monitoring station and implementation of monitoring of one particular private enterprise, among others. The State of Jalisco has been utilizing the recommended procedures in validating the collected information. It has been utilizing the analytical tools introduced by the Project. 4. Utilizing the knowledge and techniques acquired through

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Items	Source/Methods	Evaluation (as of February 14, 2008)
		<p>training in Japan, the State of Jalisco has utilized the acquired know ledges in generation of policies for improvement of air quality, better analysis of the information collected through the monitoring network, and improvement of the procedures of air quality monitoring. The State of Mexico has initiated the project of "Strengthening, Maintenance, and Amplification of the Automatic Network of Air Monitoring of the Metropolitan Zone of Valley of Toluca"</p> <ol style="list-style-type: none"> 5. In implementing the studies on PM2.5 and VOCs in the first Model City (i.e. Salamanca), CENICA Iztapalapa has added other components in collaboration with other Institutions. For instance, as a result of collaboration between the Institute of Ecology of Guanajuato, the National Autonomous University of Mexico (UNAM) and INE through CENICA Iztapalapa, a project is under way to implement a meteorological model (MM5) and an air pollution dispersion forecast model (AERMOD) for Salamanca. For this study CENICA Iztapalapa carried out meteorological measurements (balloon launching in November 2007 and February 2008). 6. Communication between Federal and local environmental authorities in air quality monitoring has been enhanced through activities conducted by the Project. 7. Local networks in some Model Cities (i.e. Salamanca and Puebla) are now willing to take initiatives to exchange information and disseminate their experience with other municipalities. <p>> <u>Positive impacts anticipated</u></p> <ol style="list-style-type: none"> 1. If a final version of the NOM under preparation through the Project, which stipulates the use of the standard manuals revised by the Project, is approved by the Federal Government, implementation of air quality monitoring system in the localities where is needed, will be compulsory; and assurance of the quality of the measurements will be enhanced. 2. The Project plans to hold an international seminar at the end of the Project to disseminate the knowledge and experience that the Mexican side has acquired through the Project. It is expected that air quality monitoring activities utilizing the techniques transferred through the Project could be applied in other part of Mexico and other countries.

5. SUSTAINABILITY:

Items	Source/Methods	Evaluation (as of February 14, 2008)
5.1 Institutional & Organizational Aspects		
(1) Policy and legal supports	Review of the relevant document, questionnaire to C/P	Air quality monitoring has a policy and legal supports as shown in 1.2 of "Relevance" of this Annex. Considering the seriousness of air pollution in Mexico, these supports are likely to continue.
(2) Organizational strategy	Questionnaire and/or interview with C/P	As stated in the joint evaluation report of the Mid-term Evaluation, which was authorized by JCC, "(c)onsidering the vision that CENICA would become an institution to be reference laboratory for air quality monitoring and equipment calibration, the number of CENICA staff is not sufficient at the moment". The situation has not been changed since then: CENICA suffers from shortage of staff. CENICA is awaiting an approval of a request for additional six permanent posts by the Secretary of Finance. With these additional posts, reorganization of the CENICA Tecamachalco is contemplated.
(3) Management capacity of the	Questionnaire and/or interview with C/P & JE	CENICA has managed the Project activities without serious problems. It is expected that they would manage the relevant activities for themselves

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Items	Source/Methods	Evaluation (as of February 14, 2008)
relevant activities		after completion of the Project.
(4) Deployment of C/P trained by the Project	-ditto-	<p>It is uncertain if all of the current C/Ps will remain with the CENICA in future. So far, four C/Ps have left CENICA for personal reasons. In addition, some of the C/Ps (i.e. three technical assistants at Tecamachalco) are not permanent employees of the CENICA, whose contracts for the year 2008 are already under the Federal Government process.</p> <p>In the meantime, the C/Ps trained by the Project are likely to be posted in appropriate positions. Therefore, they will be able to fully utilize their knowledge and skills to continue their task and sustain the Project effect. In case of these C/P personnel remaining with the CENICA, the technical sustainability will be secured after the completion of the Project. It is assured that through the hiring process and training already established by the Federal Government, the positions will be filled with capable people and will not affect the sustainability of the Project.</p>
(5) Coordination with other relevant organizations	-ditto-	CENICA has actively coordinated with various Federal, State, Local governments, universities, civil associations, private enterprises, in implementing the activities related to air quality monitoring, as described in Annex 4. It is likely that the coordination would be sustained or expanded in future.
5.2 Financial Aspects	-ditto-	So far, the Government of Mexico has allocated necessary budget for the activities of the Project. It is likely that financial sustainability is secured.
5.3 Technological Aspects		
(1) Technical capacity of C/P	Questionnaire and/or interview with C/P, J/E, target beneficiaries	<p>All in all, the technical capacity of C/P overall up till now has mostly reached the levels of sustaining the operations of each organization in the Project.</p> <ul style="list-style-type: none"> ➤ <u>Air quality monitoring system</u> (Output 1 & 2): The C/P of CENICA Tecamachalco has acquired the calibration methods for the air monitoring of criteria pollutants. The skills and knowledge of C/P for daily operation and maintenance have generally reached the level of acceptance. It needs enhancement and consolidation of training in operation & maintenance of the SRP. ➤ <u>Simulation modeling for air quality monitoring</u> (Output 3): The C/P of CENICA Iztapalapa fully acquired the technologies of air pollution simulation model, transferred by the J/E team. It is close to finish the learning process for its application for the Model City. The skills and knowledge of model application have been successfully transferred and will be optimized before the end of the Project. ➤ <u>Measurement and analysis of non criteria air pollutants</u> (Output 3): Transfer of technology by J/E team regarding methods for sampling, chemical analysis and data analysis has been achieved up to the moment and will be optimized by the end of the Project. As has been the case over the last years, CENICA will continue the process of optimizing these methods. ➤ <u>Data management for air quality monitoring</u> (Output 4): The C/P of CENICA Tecamachalco has fully acquired the techniques related to data management, including validation and analysis.
(2) Utilization and dissemination of the transferred techniques and the project deliverables	Questionnaire and/or interview with C/P, J/E, target beneficiaries	<p>It is highly likely that CENICA would utilize and disseminate the transferred technologies after the end of the Project as part of their normal work, continuing seminars, workshops, training courses, field visits and using such deliverables as manuals, analytical tools, etc. As for the standard manuals, it will become mandatory for the local governments to apply them in air quality monitoring if the final version of the NOM, which is being developed under the Project, is approved by the Government.</p> <p>The technologies transferred through the Project are considered to be</p>

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Items	Source/Methods	Evaluation (as of February 14, 2008)
		<p>adaptable and relevant with the needs with the local governments, judging from degree of their utilization.</p>
<p>(3) Utilization of the provided machinery and equipment</p>	<p>Questionnaire and/or Interview with C/P & J/E</p>	<p>Machinery and equipment provided by the Project are essential for CENICA to implement their activities related to air quality monitoring. The equipment is expected to be utilized fully. Technical capacity of the C/P in operating and conducting a routine maintenance of the provided equipment has been increased through the Project.</p> <p>There are some concerns. Since all of the equipment was procured in the International market, spare parts may not be readily available in Mexico. Repairing works may have to be done by makers overseas in some cases.</p> <p>It is also valuable to note that the sustainability of the utilization partly relies on the ability of CENICA to secure financial backbone for maintenance. Sustainability of the utilization of the equipment can be expected with the successful planning and implementation of the budget for its maintenance.</p>